SOCIETY FOR ADVANCEMENT OF MANAGEMENT

Advanced Management

UNIVERSITY OF MICHIGAN
SEP 20 1951
ENGINEERING LIBRARY

COMBINED WITH MODERN MANAGEMENT

MANAGEMENT ORGANIZATION

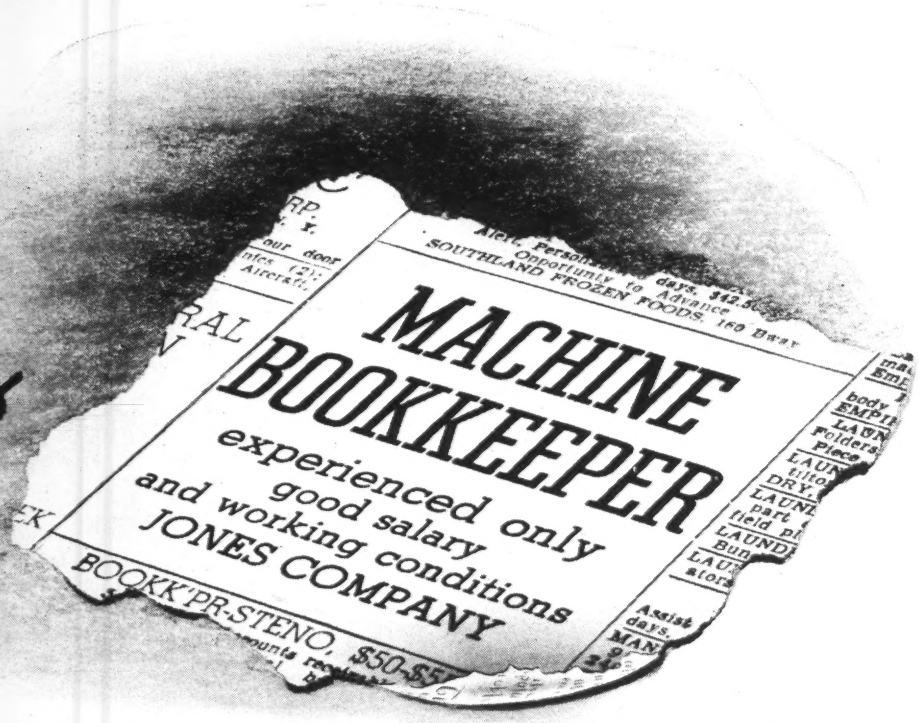
IN THIS ISSUE

- Advantages and Disadvantages of Committee Management
- The Basis for Dynamic Leadership
- Consolidated Services and Their Possibilities
- Fall Management Conference Plans
- Putting Human Relations on the First Team

VOL. XVI NO. 9

SEPTEMBER 1951

You won't run this ad...



when you mechanize with Remington Rand

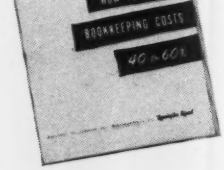
Easiest to operate of all the accounting machines

Your own staff can quickly learn to use it. No special operators need be hired. Here's what three firms say:

MICHIGAN: "We went around to other companies to examine their methods... the Remington Rand accounting machine seemed simpler than others."

CALIFORNIA: "We installed the machine without a special operator... One of our employees was trained without difficulty."

MARYLAND: "The simply designed keyboard and the complete visibility of the writing line are great aids to speed and production."



Booklet AB-392 shows you how to slash your bookkeeping costs by 40% to 60%. Ask your local representative, or write to Management Controls Reference Library, Room 1329, 315 Fourth Ave., N. Y. 10.

Let us show you how your present employees, *familiar with your procedures,* can easily operate this machine. Just one simple keyboard. Standard alphabet keys. Only ten numeral keys for all the figure work.

All the operator does is enter amounts and descriptions. The machine does the rest of the job automatically, giving you completed and proved records with up-to-date balances.

call

Remington Rand INC

Volume XVI Number 9
September, 1951

Editor-in-Chief—DILLARD E. BIRD

Editor and Business Manager
LEWIS T. BOLGER

Consulting Editors
ROBERT P. BRECHT JOHN F. MEE
DON F. COPELL HAROLD F. SMIDDY
RALPH M. BARNES

Advanced Management

NATIONAL OFFICERS: 1951-52

President — LEON J. DUNN, *Assistant to the Executive Vice President, Veeder-Root, Inc., Hartford, Connecticut*

Executive Vice President — EDWARD W. JOCHIM, *General Manager Chicago Plant and Member of the Board of Directors, Personal Products Corporation, Chicago, Ill.*

Secretary—HOWARD K. HYDE, *Department of Defense, Washington, D. C.*

Treasurer—BRUCE PAYNE, *President of Bruce Payne & Associates, Inc., Westport, Conn.*

Director-at-Large—DILLARD E. BIRD, *Management Counsel, Westfield, New Jersey*

Executive Director—C. A. SLOCUM

NATIONAL VICE PRESIDENTS

Vice President, Management Research and Development — HAROLD F. SMIDDY, *Vice President, Management Consultation Services Division, General Electric Company, New York*

Vice President, Student Chapter Operations and Development—RALPH L. JACOBS, *Management Consultant, Cincinnati, Ohio*

PAST PRESIDENTS

ORDWAY TEAD, *Editor of Social and Economic Books, Harper & Brothers, New York, New York* (1936-37)

WILLIAM H. GESELL, *Vice President, Lehn & Fink Products Corporation, Bloomfield, New Jersey* (1937-39)

MYRON H. CLARK, *Management Consultant, Boston, Massachusetts* (1939-41)

J. KEITH LOUDEN, *Vice President, York Corporation, York Pennsylvania* (1941-42)

PERCY S. BROWN, *Retired New Hampton, New Hampshire* (1942-44)

RAYMOND R. ZIMMERMAN, *Special Assistant, Economic Cooperation Administration, Washington, D. C.* (1944-46)

HAROLD B. MAYNARD, *President, Methods Engineering Council, Pittsburgh, Pennsylvania* (1946-47)

WILLIAM L. MCGRATH, *President, The Williamson Heater Company, Cincinnati, Ohio* (1947-48)

CHARLES C. JAMES, *Associate Counsellor, Stevenson, Jordan & Harrison, New York, New York* (1948-49)

DILLARD E. BIRD, *Management Counsel, Westfield, New Jersey* (1949-51)

CONTENTS

Certainly We Like Committee Management 2
by C. R. Cary
Senior Vice President, Leeds & Northrup Co., Philadelphia, Pa.

Dynamic Leadership Needs a Sound Base 4
by Stanley E. Bryan, Division of Business, Michigan State College

Fall Conference Announcement 8

The Possibilities in Consolidated Services 9
by I. D. Robbins, Special Writer on Management Subjects

Statistical Sampling—A Sharp Tool 12
by John M. Allderige, Industrial Engineering Division,
Kodak Park Works, Eastman Kodak Co., Rochester, N. Y.

Better Management Benefits Everybody 16
by Arthur C. Spurr, President, Monongahela Power Co., Fairmont, W. Va.

Off the Fringe and Onto the First Team 19
by Allison V. MacCullough
National Metal Trades Association, New York City

Society News 22

Motorola's Vision Program Pays Off 24
by Kenneth Piper
Director of Human Relations, Motorola, Inc., Chicago, Ill.

The Management Bookshelf 26

DISCLAIMER: Every effort is made to verify the information published in ADVANCED MANAGEMENT. The opinions of the authors, however, are not necessarily the opinions of the Society and this periodical accepts no responsibility in connection with any liability which might develop as a result of articles published. All unsolicited articles, manuscripts, letters, and pictures sent to ADVANCED MANAGEMENT are sent at the owner's risk, and ADVANCED MANAGEMENT expressly repudiates any liability or responsibility for their safe custody or return.

ADVANCED MANAGEMENT, published monthly by Society for Advancement of Management, 84 William Street, New York 38, N. Y., is merged with MODERN MANAGEMENT, and is successor to The Society for the Advancement of Management Journal, the Bulletin of the Taylor Society and of The Society of Industrial Engineers. Re-entered as second-class matter, December 23, 1949, at the Post Office at New York, N. Y., under the Act of March 3, 1879.
Copyright, 1951, Society for Advancement of Management.
Subscription rate: $8.00 per year. Single copies: 75 cents (members); $1.00 (non-members). An index to ADVANCED MANAGEMENT is published annually, and the contents are also indexed in *Industrial Arts Index* which is available at Public Libraries. Notification of address changes must be given four weeks in advance.

Certainly We Like Committee Management!

By C. R. CARY

Senior Vice President, Leeds & Northrup Co.
Precision Measuring Instrument Manufacturers

It has its disadvantages, but experience dating all the way back to 1915 has convinced the management of this Philadelphia concern that the fostering of objective thinking — plus wide policy-formulation participation make these daily sessions well worthwhile.

POSSIBLY THE BEST approach to a discussion of the "Advantages and Disadvantages of Committee Operation in Top Management" as experienced by the Leeds & Northrup Company is to summarize why and how that method of management came into being. The reason is very simple. When the project of manufacturing precision measuring instruments was relatively small, and the variety of its functions limited, one man could master all phases of the operations. As operations became more complicated, a point was reached where it was necessary to divide the responsibilities among a few associates along functional lines, and the partnership structure came into being. Later on this was followed by further functionalization, and the corporate structure was evolved.

At this point, the Executive Committee came into being as possibly the best means of pooling the knowledge and judgment, and co-ordinating the actions of the group of top men. Each member was presumably expert in one or more functions of the business, and together they comprised a team to control all Company operations.

To go thoroughly into analysis and description of all the factors which influence net worth of the committee system as such is too much of an undertaking. Instead, I intend to list and very briefly describe, on the basis of some 35 years' experience with Committee Operation of the top management of Leeds & Northrup, what weaknesses had to be minimized and what elements of obvious value to the organization were consciously strengthened.

ELEMENTS OF WEAKNESS

A) Looking first at elements of weaknesses, Committee Management, from its very nature, undeniably tends to be cumbersome and to attain its results more slowly than does the spot judgment of an individual. To minimize this weakness, the Executive Committee meets daily at nine A.M. and prompt attendance is an obligation having top priority unless the individual is sick, on vacation, or out of the city. Possibly two or three times a year special meetings, at odd times, have to be held to meet emergencies.

B) Committee Management may tend to use time inefficiently. To minimize this possible weakness each matter to be acted on by the Committee must be presented in a note, with copies to each member, and distributed, except in emergencies, not less than 24 hours before it is to be discussed. This note generally gives a more or less detailed background of the project under consideration, states what is desired to be accomplished, and ends with concise, clear, definite recommendations for which approval is asked. The embarrassing experience of trying now and then to get a proposal through without such a note is all that is needed to keep alive the realization of the futility of attempting oral short-cuts. Interim reports, not calling for action, however, are frequently made orally.

There is no agenda prepared for the meetings. However, when there is an important matter which should have the attention of the full committee, it is scheduled ahead of time for a certain day. Ordinarily, the Committee considers whatever notes may be open and then adjourns.

THE VETO IS RARE

With the above described procedure which provides the opportunity for advance preparation and reasonably mature consideration, the average run-of-the-mill proposal can be acted upon by the Committee in normal course the second morning after the note is distributed. When necessary we can make it the first morning, but in general, this is frowned on.

C) A committee may tend to be argumentative, with consequent waste of time. No rule or procedure which has, I believe, yet been devised will choke off discussion at the point where useful discussion degenerates into argument. Control of this elusive weakness has to rest on the shoulders of the presiding officer, the President of the Company. His task in our case is made easier for him by the fact, thoroughly recognized by all, that the Committee is, at base, purely advisory. The President has the power, if he wishes to exercise it, to act counter to the judgment of the rest of the Committee, and two or three times

Mr. Cary's article is based on an address he gave at the recent Third Annual Conference of the Philadelphia Chapter of the Society for the Advancement of Management on the subject "Advantages and Disadvantages of Committee Operation in Top Management."

in the history of the Company, he has actually done so. The more important result of this advisory relationship is the willingness it induces in Committee members to accept his word that the discussion has gone far enough to justify calling it off and decide what we want to do without further conversation.

WEAKNESSES OUTWEIGHED

As I review the experiences of a business life-time, I am left with the firm belief that the procedures described have been sufficiently effective to make the values derived from Committee Management far outweigh its weaknesses. However, those values do not automatically flow from the process of committee management per se, but rather are strongly influenced by, if not actually derived from, the skill displayed in the establishment and the conduct of committee procedures.

An outline of the values which we feel we have secured from Committee Management, along with references to procedures we have followed in the effort to increase those values may, I hope, be to some degree helpful.

MEETINGS HELD DAILY

In the judgment of its founder, Morris E. Leeds, in 1915 the business of the Leeds & Northrup Company had become too involved to be managed by one man. At that time his partner, E. F. Northrup, had retired. In 1915 committee management was, to say the least, rare. Mr. Leeds did not start out with a full-fledged committee with regular meetings or procedures — rather he started by leaning more and more heavily upon each of those individuals whom he had placed in charge of the major divisions of the organization, i.e., Production, Finance, Sales, Engineering, and Research. (Industrial relations, as such, was added much later.) This naturally and rapidly evolved into regular meetings, and thus the Executive Committee as an advisory body with daily meetings was born. Since 1918 all its actions have been minuted. The minutes are filed and indexed, and notes on which the actions were based are filed in the same book as the corresponding minutes with which they are cross-indexed.

To this committee are brought for consideration all matters in which proposed action will impinge more or less directly on more than one department and which are not covered by previous committee action. The subjects range from minutia, such as authorization to a member to grant permission to an individual in his department to take a special vacation, up to the most important decisions the Company has to make and which must later be confirmed by the Company's Board of Directors. Decisions are generally reached by "sense of meeting"—voting is rare. All this may sound formidable, cumbersome, and time-consuming. Actually our meetings range in length from thirty seconds up to two or three hours, with an average of about one-half an hour, 9 to 9:30 A.M.

WISER AND SMOOTHER

What has this daily half-hour thus spent bought for us? Without an effort to appraise the relative importance of the various items, I list the more important advantages which we have secured.

1) Decisions have been wiser. When one has to put a proposal in such shape that it can win the approval of six or seven other individuals he will think his proposal through more thoroughly and describe it much more carefully than would otherwise be the case. If there is a weakness in his proposal, some Committee member will be almost sure to pick out that weakness. Further, time and time again a proposal which is entirely sound from the point of view of the department in which it originates is found to be unsound from the viewpoints of one or more other departments. And then there are those major decisions which do not deal with problems of any one department, but with policies of the organization. In arriving at such decisions not only is the wisdom of all members brought to bear, but it is brought to bear by individuals who through continuous practice have a higher degree of skill in analysis and group thinking than would otherwise have been the case.

2) Consistency in the year-to-year maintenance of company policy is facilitated. It is quite possible that a single top executive could establish and maintain an equally careful system of record-keeping to provide for consistency in policy. But he, acting independently, in the face of a given situation, is more likely to fail to realize that he has some years back issued an edict covering that situation, and issue a new one differing in greater or less degree from its predecessor.

3) A high degree of uniformity of top level administrative practice is secured. When lack of uniformity develops, it is relatively easy to ascertain where the divergence from established policy has occurred, which is the first and major step to be taken in maintaining uniformity of practice.

4) The Committee setup and the procedures followed tend toward the prevention of personal animosity between major executives. If such individual animosity exists in any company, it almost inevitably spreads into corresponding departmental hostilities, which are fatal to that departmental cooperation that is essential for efficient plant operation. The fact that departmental interests inevitably clash from time to time makes the danger of personal animosities a serious one.

OBJECTIVITY FOSTERED

Our experience indicates that these daily meetings of the committee, with the opportunity, if not the necessity, to talk out and straighten out causes of warfare before they become serious, is most efficacious in preventing personal animosities. This is especially true when the committee is steered by a tactful, diplomatic president, blessed with a keen sense of humor. Such a combination will benefit the organization by developing a group of executives, each of whom is perfectly capable of pushing or defending his own point of view so vigorously as to generate much heat, but who can still remain amiable and objective about it all even if an adverse decision is reached. When this condition is reached, you can be just about sure you have not only a smoothly functioning managerial group, but will also have a smoothly functioning organization, since the actions and attitudes of the boss almost invariably find them reflected in the actions of his subordinates.

Dynamic Leadership Needs a Sound Base

By STANLEY E. BRYAN
Division of Business
Michigan State College

There are still too many 'Woofle Bird' management men giving too much concern to where they've been — and not enough to where their company is going. The author suggests they take a look today at the views offered by Taylor, Emerson, Gantt, Willkie, McCormick, Davis and others.

THE MOUNTAIN FASTNESS of the Los Padres Forest is reputed to be the habitat of the legendary woofle bird. This rare bird possesses the unique characteristic of flying backwards—which suggests a similarity between the woofle bird and some very conscientious executives.

Some of these executives, who diligently pour over business reports and accounting statements, and have their desks piled high with work, may have acquired "the woofle bird outlook." The woofle bird, it seems, isn't very concerned with where he is going but is very concerned with where he has been.

This lack of emphasis upon the future is not as uncommon as one might think. The implication of recent findings of a group of Stanford University researchers is that management men are spending too much time and energy on the daily details of their activities and are often neglecting the broad planning necessary for increasing the stability and effectiveness of operations.[1] With the humility of one who recognizes this weakness in his own activities the writer has observed this tendency in various executives of his acquaintance.

The broad planning, so necessary in the development of a sound management philosophy, includes the logical grouping of functions, factors and principles necessary to approach a particular set of problems. Dynamic industrial leadership depends upon a sound philosophical base for effective operation. Such planning takes time, energy, and concentration of mind.

PHILOSOPHY AND LEADERSHIP

In a lecture delivered to the graduate students of the Indiana School of Business, Professor Ralph C. Davis of Ohio State University made the following statement: "The problem of greatest importance in the field of management is and probably will continue to be the further development of the philosophy of management."[2]

The problem of integrating the means of execution into a well-knit program of action continues because of the dynamic character of our times. The philosophy of management must be sound enough to withstand the eddy currents and the cross currents of events. The philosophy of management is affected by the social, economic, and political climate within which it operates. At the same time the philosophy of management also has its effects upon the surrounding climate. Industrial leadership is an important part of the national leadership.

The development of a sound and stable management philosophy which will meet the tests of economic ups and downs, social changes, war, and political upheavals holds an importance of the first magnitude. Such a philosophy, universal in application, stable, yet flexible, must not be confused with the mechanisms.

THE EMERSON VIEW

Harrington Emerson, a contemporary of Frederick W. Taylor's, developed a philosophy of efficiency which had a profound and lasting effect upon some management people of the day. In his book, *Twelve Principles of Efficiency*, Emerson stressed the need for ideas in the creation of wealth and industry. Emerson, like Taylor warned against mistaking mechanisms for "skilled directing intelligence" (or philosophy).

Emerson's philosophy of management is summarized in his twelve 'principles': 1) Clearly defined ideals; 2) Common sense; 3) Competent counsel; 4) Discipline; 5) Fair deal; 6) Reliable, immediate, and adequate records; 7) Dispatching; 8) Standards and schedules; 9) Standardized conditions; 10) Standard operations; 11) Written standard practice instructions; 12) Efficiency reward.

These 'principles' are in reality means of execution around which principles can be developed. Yet they give a word picture of a very usable philosophy of management which has not received as wide acceptance as might be desirable.

'HUMANIZED' SCIENCE

Henry L. Gantt, whose famous Gantt charts and chart principles are used in many companies today, is also noted for the humanitization of the science of management. His philosophy emphasized management's duty to create conditions that will have favorable psychological effects upon the worker. Part of Gantt's philosophy was proper training of management. He pointed out that lack of familiarity with the history of the management movement caused the rediscovery of principles already discovered, often through much strife and suffering.

[1] P. E. Holden, L. S. Fish, and H. L. Smith, *Top Management Organization and Control*, Stanford University: Stanford University Press, 1941.

[2] *Research Needs in Business During the 50's*, Indiana Business Reports, No. 13, Bloomington, Indiana: Indiana University, 1950.

Frank Gilbreth, whose philosophy might be summed up in his search for the one best way of doing things, lived his philosophy and added his contributions to the elimination of waste effort.

These men each added something. So have men such as Fred Willkie, Charles McCormick, Chester Barnard, James F. Lincoln, P. W. Litchfield, Henry L. Nunn, and many others. The list of contributors to the philosophy of management is a long one. Yet each individual manager can make his own unique contribution by developing his own philosophy which he can present and defend in tangible terms.

WHERE DOES ONE START?

Assuming that the development of management's philosophy is one of the problems of great importance and that one can contribute by developing his own individual philosophy, where does one start? Perhaps the logical place to start is by defining *management* to one's own satisfaction. Taylor saw in management the securing of the maximum prosperity for the employer, coupled with the maximum prosperity for the employee. Help in defining management and in the development of further philosophical aspects can be secured by reading the classics of management with this idea in mind.

In the writer's opinion management is the science and applied art of planning, organizing and controlling the means of action. The means of action are integrated through the management process into a program aimed at achieving certain defined social, service, and personal goals. To the reader, management may have a different meaning. In any event, if the reader's philosophy of management is to be a sound one the process of management and the means of accomplishing his ends should have definite meaning to him.

INTERWOVEN DUTIES AND MEANS

The executives duties and means of execution have been diagrammed in the accompanying chart. The executive's duties cannot easily be separated from the means which he uses to develop his integrated program of action. In a general sense, however, executives duties might be said to be planning, organizing, and controlling.

Planning has a definite meaning. To *plan* is to devise or project a method or course of action. Planning requires original thinking. The ideals and objectives the executive has in mind must be made tangible by decisions and policies. Consideration must be given to morale and methods. Planning must include the procedures and factors necessary to prepare or make-ready for action.

To organize is to arrange or constitute in interdependent parts. Each part has a special function or relation with respect to the whole. To *organize* implies action.

Objectives and ideals are translated into departmental and individual purposes. Decisions and policies must take their form in directions. Personnel, when proper consideration has been given to morale, becomes a motivated manpower. Machines and material are organized in relation to methods. Financial means are

The Frederick W. Taylor Distinctions Between Mechanisms and Philosophy

FREDERICK W. TAYLOR, "the father of scientific management," drew a definite distinction between the mechanisms and the philosophy of scientific management. He insisted that the mechanisms should not be mistaken for the philosophy. He listed some of the mechanisms to make his point. They included such factors as the following:

1. Time Study
2. Functional Foremanship
3. Planning Room
4. Instruction Cards for Workmen
5. Mnemonic Identification Systems
6. A Routing System
7. A Modern Cost System

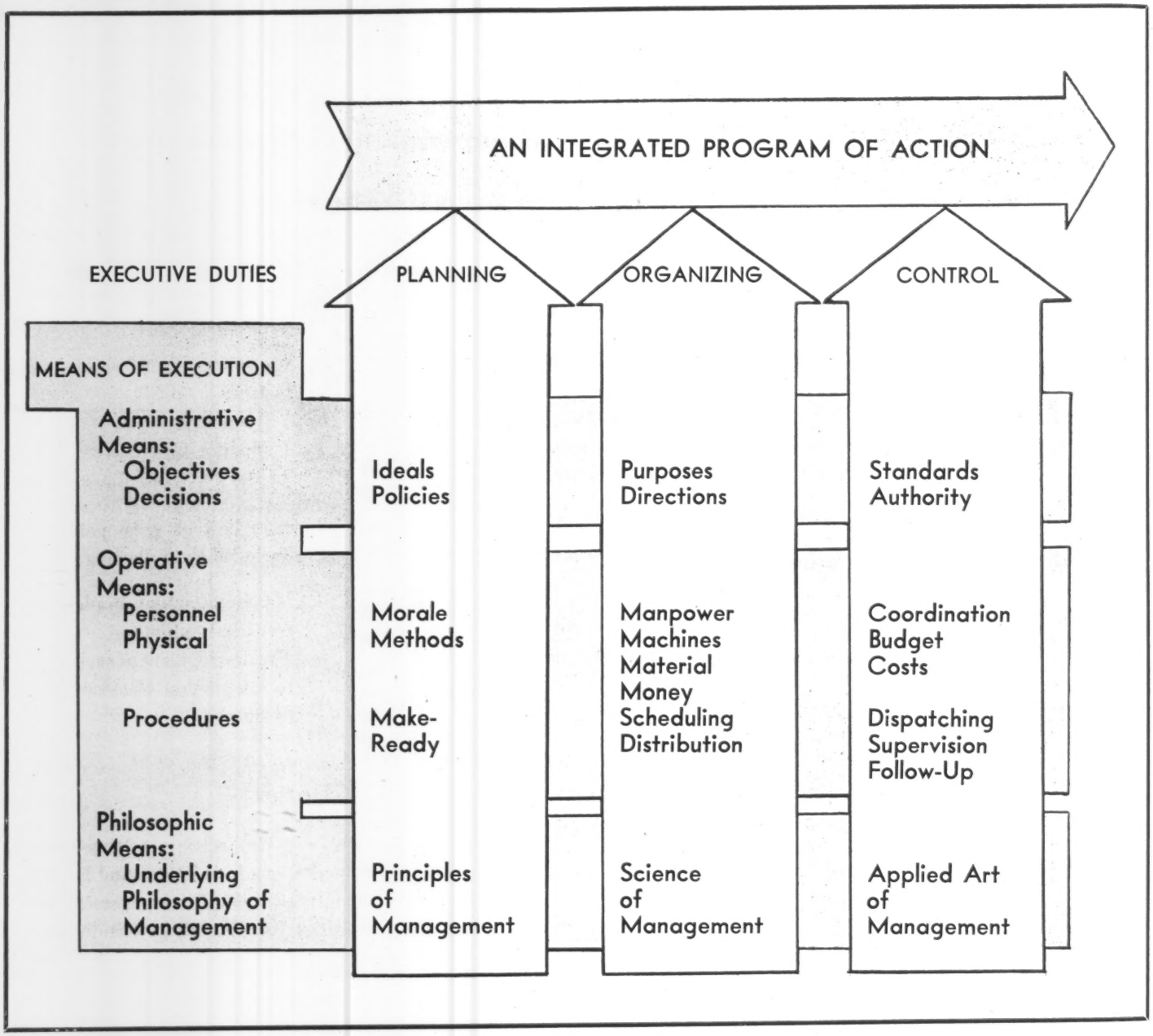
After he had listed such factors as mechanisms he took great pains to point out that his *philosophy* of management included the following:

1. Science, not rule of thumb
2. Harmony, not discord
3. Cooperation, not individualism
4. Maximum output, in place of restricted output
5. The development of each man to his greatest efficiency and prosperity

In the introduction to his book, *The Principles of Scientific Management*, Taylor stated the following as one of his objectives:

> To prove that the best management is a true science, resting upon clearly defined laws, rules, and principles, as a foundation. And further to show that the fundamental principles of scientific management are applicable to all kinds of human activities, from our simplest individual acts to the work of our great corporations, which call for the most elaborate cooperation.

To those accepting his philosophy, however, Frederick Taylor emphasized that the really great problem involved consists in the complete revolution in mental attitude of those engaged in management.



provided. Time is organized by proper scheduling. Physical distribution is provided for.

To *control* is to check, regulate, restrain, and to keep within limits. Standards are used as objectives. Standards vary from ideals to practical rule-of-thumb working standards. The term is applicable to all phases of operations, facilities, and personnel. Control is exercised through the authority to make decisions. Coordination is an essential part of control and is particularly applicable to personnel. Budgets and cost factors control many aspects of operations, particularly the physical means. Dispatching, supervision, and follow-up are essential to the control of all operating procedures.

SOME ARE 'ARTISTS'

Underlying the action and closely associated with control duties is the applied art of management. Executives can easily be found who apparently have a natural aptitude in the art of management. These executives have developed the art of management just like certain artists have learned to apply their artistry to painting. Often these persons have had no formal training in the principles of management.

Back of the art, however, even if unknown to the individual executives, is a science of management. The science of management is organized around principles. These principles can furnish effective guides to action. Principles have different magnitudes of force. They vary in force from principles which are little more than proverbs to principles which have the force of laws. These principles can be taught to others, thus eliminating much of the necessity to rediscover things already discovered.

In the original thinking or planning stage, principles should be ferreted out, formalized, and recorded. To aid in de-

CHARTING A
PROGRAM OF ACTION

Management is the science and applied art of planning, organizing, and controlling the means of action. The means of action are integrated through the management process into an integrated program aimed at achieving certain social, service, and personal goals. Soundness and stability of management are based upon the development of an underlying philosophy of management.

veloping a sound philosophy all professional executives should turn their thoughts to the principles which logically underlie their actions.

There are a few outstanding examples of principles which can be applied in making management more effective. These principles are like tools. They work well when handled by skilled managers. They mar and even destroy organization and control if they are badly handled.

THE 'EXCEPTION' PRINCIPLE

The "exception principle" was a principle which was expounded by Frederick Taylor. This principle is that during routine operations only the exceptions should be brought to the superior executive for decision. Such a principle, if applied properly, will allow the executive to clear his desk of details and concentrate upon the broader aspects of his management job. That it is a principle which has long been known can be verified by reading Jethro's advice to Moses (Exodus 18:22). That it is a principle which is often neglected can be verified by casual observation in almost any organization.

Another principle which has been recognized is the "principle of limited span of control." As the number of sub-executives looking to an executive for decisions, advice, and personal well-being increases, so does the number of relationships, but the number of relationships increase at a much faster rate, quickly placing a strain on the executive's span of control, knowledge, energy, time, personality, and attention. For a technical discussion of this principle the reader can refer to V. A. Graicunas, "Relationship in Organization," (*Papers on the Science of Administration*, New York: Columbia University, 1937). The principle suggests that executives take care not to exceed their span of control.

A third principle which is becoming recognized is the "principle of coordination." Coordination must begin in the early stages, be a continuing and personal process; it requires mutual understanding and appreciation of other's duties.[3]

Other principles which are almost axiomatic are the following:

Principle of the Objective. An organization exists to accomplish objectives. These objectives should be known and understood by all members of the organization.

Principle of Planning. To effectively accomplish any important activity there should be planning in advance of performance.

Principle of Control. Planning will have lost its effectiveness unless there is control to make certain that the plans are carried out.

Principle of Simplicity. All activities which are not necessary should be eliminated, and those which are retained should be handled in the simplest manner possible.

Principle of Ideals. No organization can continue successfully over a long period of time without adhering to certain ideals which are acceptable to its members and those who must deal with it.

These principles are but a few of the many which are found in varying degrees of acceptance. That they are violated daily with seeming impunity does not make them less principles of management. Violations are successful only with corresponding loss of effectiveness or because other principles come into play to offset the effects.

[3]For an extended discussion of this principle the reader can refer to Mary Parker Follett, *Dynamic Administration*, edited by H. C. Metcalf and L. Urwick, (New York: Harper & Bros., 1942).

THE INDIVIDUAL APPROACH

There appears to be a general management philosophy made up of the thinking, attitudes, and general operations of the nation's business executives functioning as a loose-knit group. There can be no question that this very general philosophy has been improving, particularly in terms of human relations and social responsibility. It must constantly grow and adjust if management's influence is to continue to hold a place of leadership in the nation's affairs.

Within the loose-knit framework of management's philosophy one finds a place for the individual executive to develop his own philosophy. It is quite natural for different people to have different ideas, background, and biases. An illustration of this is found in the remark of the business man who referred to the professor's lack of bias in presenting a discussion of labor legislation: "Well, you should get an unbiased opinion from him. After all, he has never labored and he has never managed." Different situations confront different executives, calling for different emphasis upon duties and means.

The duties and means suggested in the chart presented here are couched in general terms of ideals, purposes, standards, morale and other means. In a particular situation these general terms would necessarily have to be individualized into specific ideals, specific purposes, and other specific means.

The underlying theme in this integrated approach to the problem of management's philosophy is that soundness and stability in management grow out of the development of an underlying philosophy of management. A sound underlying philosophy of management can only be developed by men who regard themselves as professional managers and operate in a professional manner. Otherwise "the oldest profession, the youngest science" will be little more than a trade operated by managerial mechanics.

FALL CONFERENCE

Plans Outlined for SAM Management Sessions

November 1 and 2 picked as dates for annual Principles, Methods and Techniques expositions on Increasing Productivity, Reducing Costs, and Improving Human Relations. Work sessions, luncheons and banquet scene will be The Statler, New York.

TOP MANAGEMENT MEN will share with academic leaders and management specialists the key positions on the two-day, double-sessions program for the Annual SAM Conference November 1 and 2 at the Hotel Statler in New York City.

Devoted to practical work conference activities, the annual Fall meeting will stress Principles, Methods and Techniques for Increasing Productivity, Reducing Costs, and Improving Human Relations. Separate sessions on Productivity and Costs and on Human Relations will be held each morning and afternoon. There will be luncheons each day, and the annual banquet will be held Thursday evening, November 1.

Registrations are now being received and from early returns there are indications of another record-breaking SAM management conference. Registration fees for the entire conference and all meals are $21 for SAM members and $26 for non-members. (For the convenience of ADVANCED MANAGEMENT readers, a registration blank is printed on the back cover of this issue.)

THE THURSDAY SESSIONS

The speakers and their topics for the Thursday morning session on Increasing Productivity and Reducing Costs are as follows:

"The Use of Work Measurement in Budgeting"—Henry P. Dolan, *Director of Manufacturing Budgets,* Curtiss-Wright Corporation, Wood Ridge, N. J.

"Cost Concepts for Executive Decisions"—Joel Dean, *Professor of Business Economics,* Graduate School of Business, Columbia University, New York.

"Something New in Quality Control"—Olaf R. Swanson, *Manager of Quality Control,* Stewart Warner Corporation, Chicago, Ill.

The Thursday morning session on Improving Human Relations will be highlighted by the following speakers and subjects:

"Practical Values of Organization"—R. E. Gilmor, *Vice President,* Sperry Corporation, New York.

"Why Foremen, Supervisors and Junior Executives Quit"—Speaker to be announced.

"What Makes Successful Executives"—Dr. Burleigh Gardner, *Executive Director,* Social Research, Inc., University of Chicago, Chicago, Ill.

Speakers for the luncheon session on the opening day will be announced later. The subjects and speakers scheduled for the November 1 afternoon Productivity and Costs session are as follows:

"Increased Efficiency Through Production Planning" — John W. Craig, *Vice President,* Avco Manufacturing; General Manager — Crosley Division, Cincinnati, O.

"Increased Efficiency Through Methods Improvements"—Howard Roat, *Master Mechanic,* A. C. Spark Plug Division, General Motors Corporation, Flint, Mich.

"Increased Efficiency Through Training"—Clyde L. Schwyhart, *Manager of Education and Training,* Caterpillar Tractor Company, Peoria, Ill.

For the November 1 afternoon work conference on Human Relations the subjects and speakers are as follows:

"Psychology in Business" — Dr. Alfred J. Marrow, *President,* Harwood Manufacturing Company, New York.

"Executive Inventory and Development"—Clarence B. Caldwell, *Director of Personnel,* Sears Roebuck & Company, Chicago, Ill.

"Programming Executive Development"—George B. Corless, *Advisor on Executive Development,* Employer Relations Department, Standard Oil Company (New Jersey), New York.

THE FRIDAY SESSIONS

Friday morning's program for the Productivity and Costs session will include these subjects and speakers:

"Incentives That Work" — Bruce Payne, *President,* Bruce Payne & Associates, Inc., Westport, Conn.

"Effective Application of Work Simplification"—Speaker to be announced.

"Simplified Job Evaluation"—Ralph W. Ells, *Chief Economist,* Allen Bradley Co., Milwaukee, Mich.

At the Human Relations session the morning of November 2 the scheduled subjects and speakers are:

"Setting Standards for Executive Compensation"—A. R. Towl, *Associate Professor,* Harvard Business School, Cambridge, Mass.

"Salaried Personnel Planning" — Merle Hale, *Director of Salaried Personnel,* General Motors, General Motors Building, Detroit, Mich.

"Budgeting and Cost Control for Personnel"—William C. Jackson, *Director of Industrial Relations,* J. D. Adams Manufacturing Company, Indianapolis, Ind.

After a luncheon the Productivity and Costs session will have the opportunity of hearing the following:

"Quantitative Approach to Organization Control"—L. R. Gaiennie, *Director of Personnel,* Fairbanks Morse Co., Chicago, Ill.

"Modern Materials Management" — Stanley Bryan, *Associate Professor of Management,* Michigan State College Lansing, Mich.

"Improved Materials Handling" — William F. Lucas, *Vice President,* Brown Forman Distillers Corporation, Louisville, Ky.

The windup of the Human Relations studies will be highlighted Friday afternoon, November 2, by the following speakers and subjects:

"Recruiting and Developing First Line Supervision" — Ernest H. Reed, *Manager of Education and Personnel,* International Harvester Company, Chicago, Ill.

"Use of Tests in Selection of Supervisors" — Dr. Herbert Meyer, Psychological Corporation, New York, N. Y.

"Who Is A Foreman" — Claude V. Swank, *Vice President,* Johnson & Johnson, New Brunswick, N. J.

The Possibilities in Consolidated Services

By I. D. ROBBINS
Special Writer on Management Subjects

Coca-Cola and Pepsi may not see eye-to-eye on a "secondary management" set-up — but Gimbels and Macy's do. And many other firms are looking to independent management to supply specialized equipment, training and know-how for the handling of off-the-main-path jobs.

THE MODERN BUSINESS EXECUTIVE is fighting to achieve the most effective use of his time and energy, to concentrate his efforts on those functions which his experience tells him are most likely to be profitable. He may be quite capable of dealing with secondary problems but he often has little time for them—or patience with them.

Consolidation of the secondary aspects of a business under independent management may be one answer to this problem. If a problem cannot be solved without excessive effort, then it is perhaps best to get rid of the problem entirely. By consolidating a problem with similar problems of other companies, it should be possible to find management which will make these secondary problems its primary problems.

Many fields are complicated by the necessity of performing secondary services which cast a shadow over the major functions of the business. A merchant may be quite prepared to handle the personnel problems connected with his selling force because such problems go to the heart of his operation. But he may feel quite differently about labor problems affecting his delivery department or his maintenance and housekeeping services. To negotiate a contract for ten workers may take as much time as negotiating a contract for 100 or more.

To cite another example: with the best intentions in the world, a company starts an employee restaurant; allocates space, purchases equipment and hires supervision. But the problem doesn't end there. If there are complaints about the restaurant, they require the attention of higher management. Additional employees are hired, additional facilities required. Supervision is inadequate and new supervision is needed. Within a relatively short time the company decides that it doesn't want to be in the restaurant business and employs an outside catering company specializing in restaurant operation. The executives sigh with relief.

MACY'S AND GIMBELS DO IT

A Pepsi-Cola truck made three deliveries in the block following behind a Coca-Cola truck, which made the same deliveries to the same stores. Two drivers, two helpers, two trucks. One truck could have made all three deliveries while the other truck was delivering in another neighborhood — faster service, lower cost of delivery per unit, less traffic congestion.

To many businessmen the thought of Coca-Cola and Pepsi-Cola both delivering their products from the same truck is an absurdity. An even more classic example of competition is that between Macy's and Gimbels. Nevertheless both Macy's and Gimbels deliver their parcels in the same trucks to the same customers.

Right now a lot of management men are concerned with the problem of plant protection. And some of them are facing decisions on matters of selection and training of guards and of uniforms and equipment—or whether to let Pinkerton's do it.

KNOW-HOW AND EQUIPMENT

Consolidated services and others of what might be termed "secondary management" generally arise because someone seeks to specialize in a field with which he has most familiarity and offers to business a better service at a lower price than management is able to provide itself. *The New Yorker* recently wrote about a sidewalk sanitation service which undertook to sweep the sidewalks in front of stores and office buildings in large cities. The service is able to afford special cleaning and snow removal equipment beyond the means of an individual store or building. They further increase their efficiency by working during the night and early morning hours.

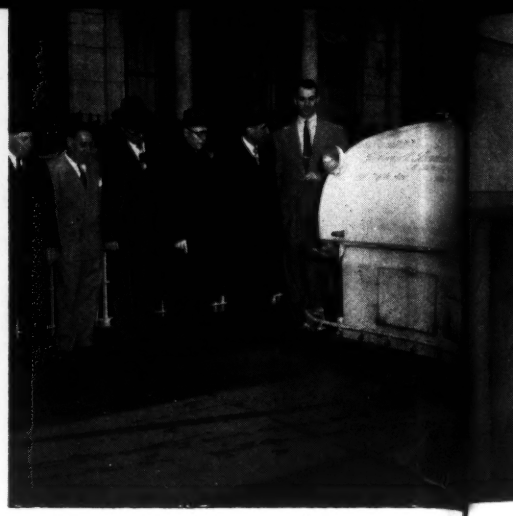
In this same category are all forms of maintenance, such as window and office cleaning, pest extermination, typewriter and other machine repairs, and linen and other supplies. This last service now covers plants, hospitals, restaurants, offices and, even, homes.

A distinction is made between services which might conceivably be developed and operated by the company and mere outside purchases of services, printing, paint and supplies generally. This discussion becomes more meaningful when a decision is made to employ outside consolidated service for aspects of the business which, although secondary, are integral.

It is contended that outside specialists will usually do a better job in the operation of an employee cafeteria, the cleaning of offices, etc. But perhaps even larger spheres could be profitably unloaded on experts.

Consolidated credit checking and rating services are an accepted part of the business structure. The recent development of the Charga-plate system has saved time and eliminated errors in the extension of credit to retail customers. A logical extension of credit services might be the setting up of a consolidated billing and collection service. In fact, students of retailing have pointed out that the ease with which credit is now obtained from many stores on the strength of credit having been obtained

Specialized equipment and detailed training are offered by the consolidated services. The first picture shows a Jari Products snow plow; the next two indicate the range of Sidewalk Sanitation's equipment, and at the extreme right is a segment of United Parcel's consolidated delivery fleet.



from one store suggests the desirability of granting customers one universal charge account which would be reported on one bill and audited and collected under a consolidated program.

The delivery field affords one of the best examples of the advantages of an "outside" service. When a company is small, free delivery service can be offered to the customers without too many complications. The company buys a truck and hires one or two men to run it. The cost of that operation is calculated and management supervises it by the best available rule of thumb. The business grows and the customers demand more delivery service. Two trucks are bought; three trucks, ten or more. More men are needed to run the trucks and more supervision. As the business continues to grow, the best rule of thumb is applied. But it is still a rule of thumb and the company can never afford to give delivery the same supervision that it gives to the basic parts of its operation. As a result, for many companies their deliveries and all of the things related to deliveries never quite get under satisfactory control.

A major step was taken by the department stores of many metropolitan cities when they decided to discontinue their own delivery services. The significance of this step can best be appreciated when one recalls the pride with which R. H. Macy advertised its "Red Star Fleet" of delivery trucks.

It is possible to examine the desirability of consolidated services by examining the general conditions of department store delivery operations and exploring the work of United Parcel Service which is now the delivery service for department stores in 13 major metropolitan areas and which has grown through the transfer to it of hundreds of store-owned and operated delivery setups.

It is important to note that what is involved here is not only an analysis of the department store delivery problem but also of the applicability of consolidation of services to other businesses. If the milk industry, for example, could achieve a ten percent saving in the cost of retail delivery through consolidation, the saving might represent as much as one percent of the cost of doing business. Based on current reports, this could conceivably result in a 25% increase in profits before taxes.

As a successful consolidated service organization, United Parcel, which started in 1907 and since 1929 has increased the package count of its delivery volume nine-fold, may well have established certain principles of successful operation.

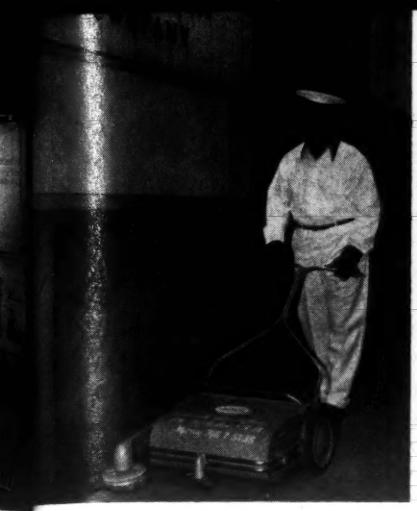
When United Parcel Service was established in Seattle by James E. Casey, still president of the company, it consisted, practically, of boys on bicycles operating a messenger service for local stores. From the bicycle, the company quickly graduated to the motorcycle and then to the Model T. In 1919 United Parcel expanded to Oakland; in 1922 to Los Angeles; in 1925 to San Francisco; in 1927 to Portland, Oregon, and San Diego. In 1930 the company made the giant stride all the way to the Atlantic Coast where in the midst of a cruel depression it launched a consolidated delivery service for New York stores. From New York and its peripheral cities, like Newark, the company in 1934 branched out to Cincinnati; in 1938 to Milwaukee and Philadelphia; in 1940 to Chicago; in 1944 to Detroit; in 1946 to Minneapolis and most recently to Pittsburgh. In many of these cities United Parcel Service is the delivery service for *every* department store and most of the specialty stores.

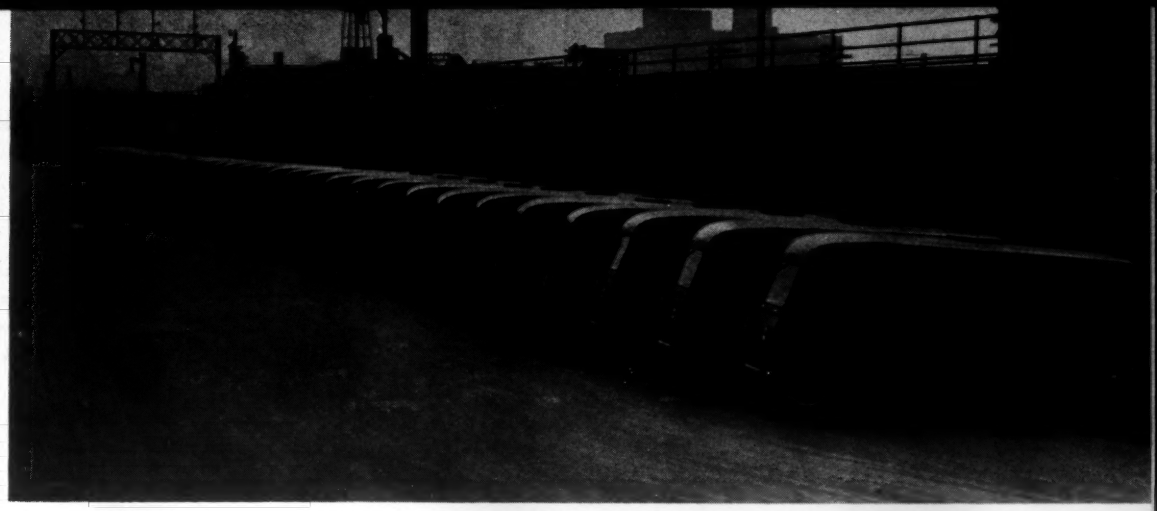
MORE THAN COST SAVINGS

Consolidated services grow in direct proportion to the need felt by those they serve to rid themselves of the burden of these secondary functions. Thus, though United Parcel's original impetus probably arose from its cost reduction feature, its most rapid growth can be attributed in large part to the many problems faced by department stores maintaining their own delivery set-ups.

Most of the executives in the department store field are merchandising minded. They see their functions as buying, promotion (including advertising and display), and selling. Customer credit and collections, housekeeping and maintenance, internal store systems, and other staff functions are given a secondary role. Deliveries are often regarded as a necessary, non-income producing evil rather than a means to increase sales and good will. Psychologically, they are a management burden. Because they are close at hand, every weakness tends to be exaggerated. Since department store top management is not basically trained in the operation of the service departments, it is not adequately oriented to their supervision.

Consideration of cost have naturally entered into every decision by a depart-





ment store to employ United Parcel Service. Obviously, factors such as traffic conditions, labor relations, store merchandising policies, accounting practices, community buying habits, all vary from time to time and from place to place and account for differences in apparent delivery costs. Before a true analysis can be made uniform standards must be set up.

FAULTY COST FINDING

In a number of cases, outside consulting engineers or accounting firms were given the task of establishing comparability and then determining whether it would be to the advantage of a store to contract with United Parcel or continue to maintain its own delivery setup. The independent analysts found that stores tend to over-estimate the number of parcels delivered by their own trucks which makes their cost per unit seem lower than it actually is. But, most important, the analysts found that in every case the stores failed to allocate to their delivery setups certain expenses which are eliminated under outside consolidated operation.

Although United Parcel does nothing that individual stores could not physically do if they were prepared to make the effort, it is hardly likely that any one store could afford the concentrated supervision and continuous study of all phases of delivery which were required to bring United Parcel to its present stage of development.

Because it handles the delivery problems of several thousand stores throughout the United States and has concentrated its management talents on delivery, United Parcel has been able to break down the delivery problem into its facets and find the best techniques for handling each facet. Thus, it is continually studying such matters as truck design and maintenance; store systems, such as sales checks, COD procedures, etc.; packing methods; truck loading, package handling machinery and safety.

It would appear that there are many areas of business operation in which the services of several companies could be profitably consolidated. Such consolidation can be effective only if it is handled by highly trained management devoting all of its time to the field and making specialized studies of the problem. Thus a premium is on management know-how, always in short supply.

TRAINING PLUS LEADERSHIP

Where the management problems are difficult and it is equally hard to train new management, it may be sound practice to give greater responsibility to that management which is already well-trained and qualified to handle the problem for more than one enterprise. Such management, provided it is under strong leadership with adequate financing, should be able to develop a clear policy which accurately reflects both the needs of its customers and of the consolidated enterprise itself.

When the consolidated operation is large enough, it becomes possible for it to engage in extensive analysis of its problems and continuous research and operating experiments which might not be feasible for one company to undertake. Thus there are opened up opportunities for improvements in efficiency, service and control which are rarely available through single company operation.

. . . BUT FIRST BE SURE

Clearly, the decision by a company to give up a service which it is performing itself and permit that service to be performed by an independent contractor is a most serious one. Before such a decision is made it must be considered with great care. The company should realize that once such a service is turned over to an outside operator, it is extremely difficult to resume it. Whatever management know-how exists is dissipated, and whereas capital for the operation which was eliminated was accumulated gradually, resumption of the operation would require a sudden investment of new capital.

Comparisons could be made between the management of consolidated services operating today in various fields. Admittedly the example chosen, United Parcel Service, is an outstanding one. Other fields which might logically be consolidated may not at this time have organizations set up to do the job.

If management talent were available for independent consolidated operations so that business in other lines could have the same complete confidence as department store executives now feel, it is likely that more and more companies would divest themselves of irksome secondary functions and concentrate on their main lines of business. And where there is a clear need and a desire to find the answer it should be possible to apply some of the principles of consolidated service, as demonstrated by United Parcel Service, to other types of business.

A Sharp Tool for Industrial Engineers

By JOHN M. ALLDERIGE
Industrial Engineering Division
Eastman Kodak Co., Rochester, N. Y.

THE "COST OF COSTING" is a trite phrase that nonetheless describes an unavoidable aspect of industrial engineering life. In the quest for new and less costly procedures the spectre of "justifying-the-investigation" hovers about, usually not too well defined until the search is finished. Then, and often only then, it either whisks away into the atmosphere as so much mist or materializes into a very real, large, embarrassing dollar sign.

There is hardly an Industrial Engineer who has not investigated to the tune of $300 and found a method that will save $12. This may be fine from an academic point of view but companies cannot exist on such economics. The problem of getting the right answer for a satisfactory cost is surely one that needs to be solved fairly early in any study that is being undertaken.

Perhaps we can get a means for at least part of such a solution by stealing a few tricks from the Quality Control people. This would appear possible since many engineering investigations require digging up information not obtainable from routine sources; that is, they require sampling, and sampling is old stuff to the Quality Control folks. The question "How large should the sample be?" is the crux of the matter, because any decision regarding the new process or method will be based on the collected data. These data must be as representative as possible but their procurement should not be too expensive; we need to determine a balance between the cost of sampling and the precision of the results obtained.

This matter can be resolved, in most cases, by using two of Quality Control's statistical pets for interpreting sampling answers: 1) the Confidence Interval, and 2) the Shewhart Control Chart. With these used in conjunction, we can:

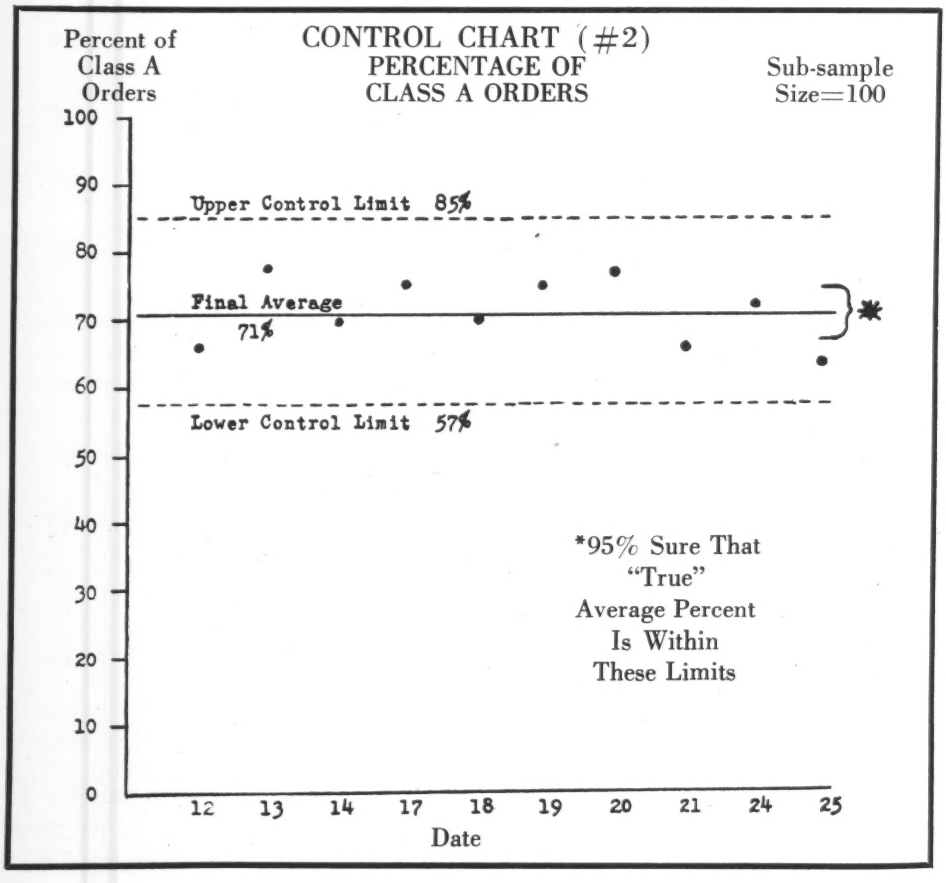
A) Tell how much sampling must be done to give us a desired degree of precision in the answer, or

B) Tell how much precision we have in an answer which, because of the economics of the situation, is the best we can get.

In other words, these tools tell us how much we have to do to be as right as we would like to be, or, how right we can be with what we can get.

To illustrate how all this is done, let us consider a situation that actually occurred—a situation not unusual in an industrial engineer's experience. The problem was to determine the per cent of a certain new type of order, call it Type A, going through a production area. This information was not tabulated routinely so some sort of sampling was called for. All orders, after inspection, passed down a conveyor belt and the initial step consisted of picking up three handfuls of 20 or so orders from the conveyor each several hours apart. This was done to get just a rough idea of the Type A percentage. These preliminary samples had from 50 per cent to 90 per cent of Type A; the difference was split and an estimate of 70 per cent resulted.

This estimate of 70 per cent set the statistical wheels in motion. Chart 1 was used to find out how large a sample would be necessary to nail down the answer within, say 3½ per cent — a purely arbitrary interval, it could have been 5 per cent or 10 per cent. Seventy per cent was lined up on the left, 3½ per cent in the middle, and 700 showed



up on the right. (Had to take a look at 700 orders, therefore, to be 95 per cent sure of getting the right answer within plus-or-minus 3½ per cent, the confidence interval.)

Plans were then made to pick up 100 orders a day, 20 orders at a time (a convenient handful) for 10 days or 1,000 orders in all. This insured the 3½ per cent precision and then some. The sprinkling about of observations *(randomization*, as it's called) is a critical part of any sampling procedure and pains were taken to spread things out as long as possible so as to get a representative picture. A two week deadline set the 10 day limit.

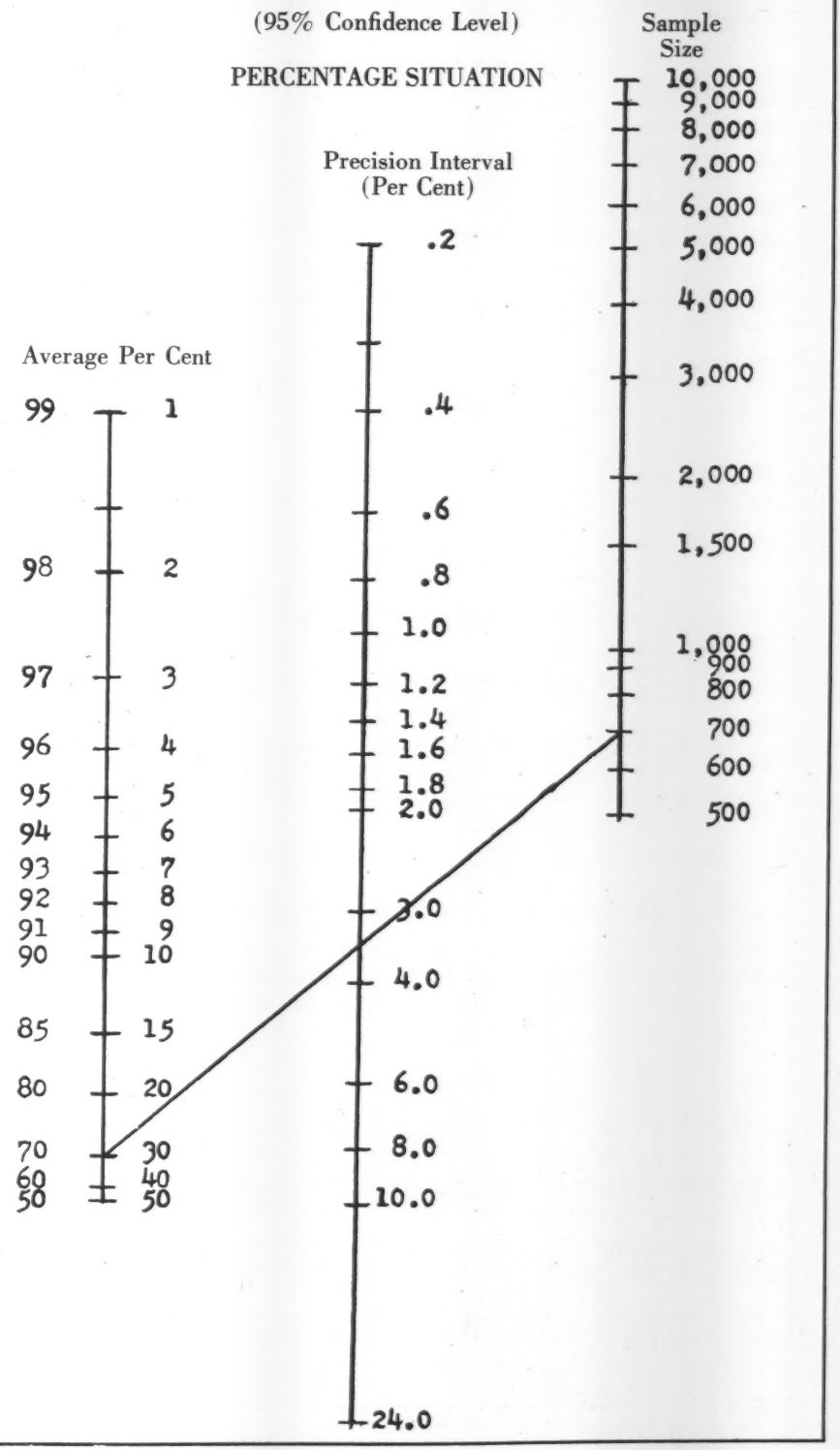
The collection of information proceeded as planned. All Type A orders in each day's total of 100 orders were counted and a per cent determined (equal to the count in this case—that is why 100 was chosen as the daily sample —one less calculation). Each day's per cent was plotted on a control chart as shown on Chart 2. The control limits came from Chart 3 merely by aligning 71 per cent (the final average) on the left, 100 (the daily sample) on the right, and reading 14 per cent off from the middle. Fourteen per cent added to and subtracted from 71 per cent gave 85 per cent and 57 per cent respectively.

This control chart is the second basic tool. Its limits are criteria of stability, warning lines any violation of which indicates that something is not quite right. In order to be 95 per cent sure that 71 per cent (give or take 3½ per cent) was the McCoy, there had to be stability—statistical control. Hence, the control chart was used and since it gave evidence of stability there was 95 per cent assurance that Type A orders comprised between 67½ per cent and 74½ per cent of the total volume.

Such was the solution of the order problem, a typical percentage-type problem. The estimate came first, then the statistical plan of attack, followed in turn by observation, then control chart analysis, and, finally, the concluding statement regarding precision. It was just a matter of using these simple tools to see how much had to be done to get the desired precision.

To round out this story of useful statistics in sampling, let us consider the type of situation wherein the data are in number form. The routine differs but the approach is just as straightforward.

Chart 1. ALIGNMENT FOR DETERMINING SAMPLE SIZE



For illustration, here is another case history—an inventory problem. The question was, "How many units are awaiting production in this area?". The next question was, "How many counts should be taken to *find out* how many units are awaiting production?".

Again there was a preliminary look-see to learn if the number was 10 or 100. Procedure called for a formal but simple routine of counting noses. For two days (it could have been one or three or more —two happened to be convenient) the engineer kept appearing on the scene six

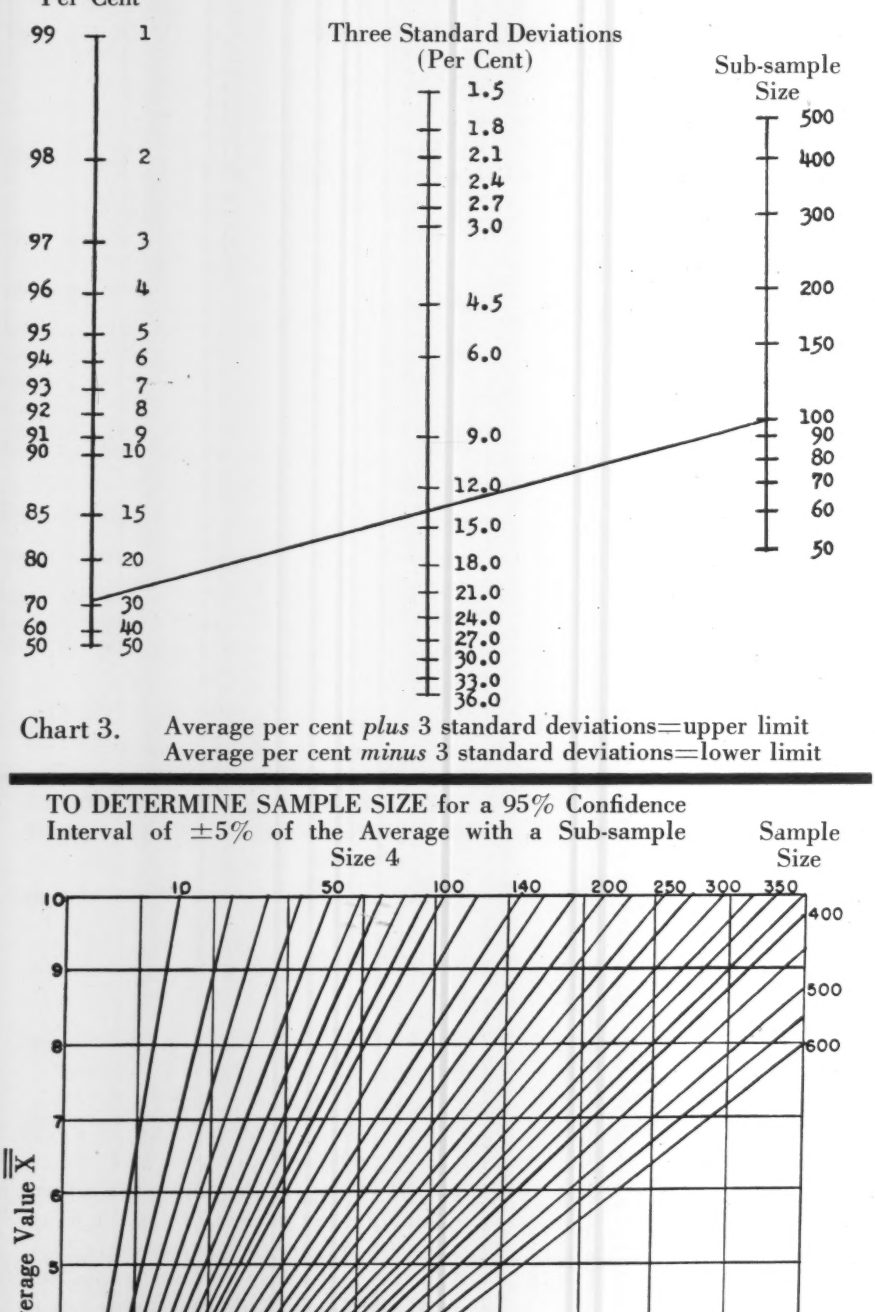


Chart 3. Average per cent *plus* 3 standard deviations=upper limit
Average per cent *minus* 3 standard deviations=lower limit

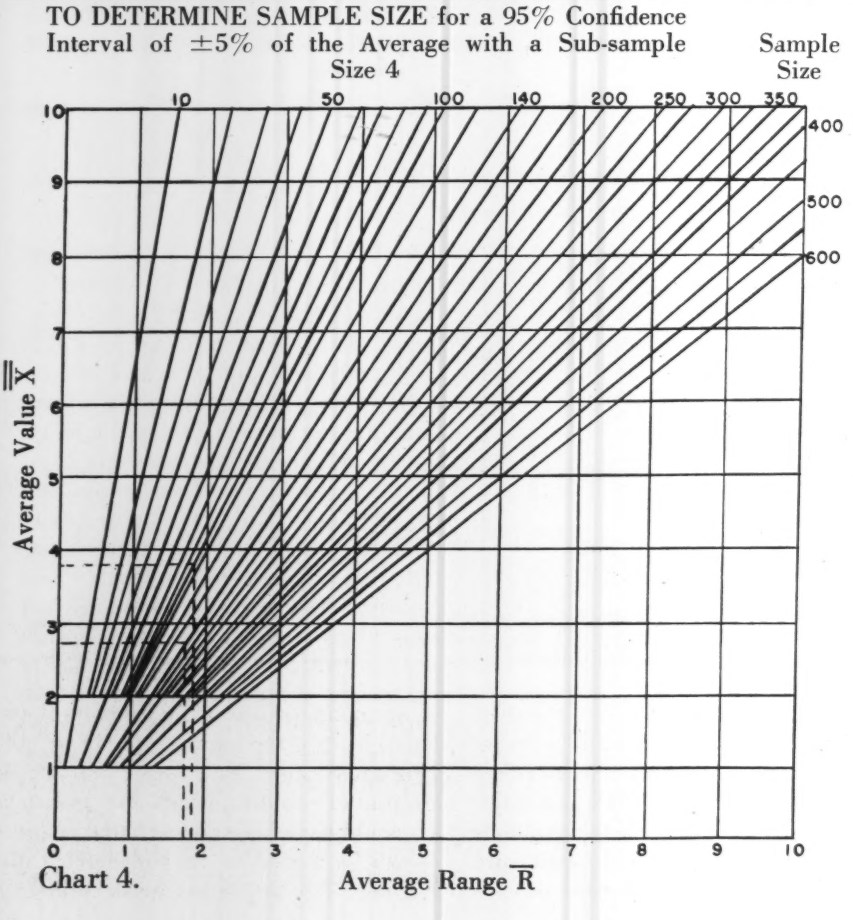


Chart 4.

times each day at random intervals. He counted the items awaiting production and recapped his data as follows:

Day	*Time*	*Number Waiting*	*Range of Groups of 4*
First day	8:25 AM	15	
	10:10	40	40—15=25
	11:35	22	
	1:40 PM	16	
	2:55 PM	27	
	4:15	21	32—21=11
Second day	8:32 AM	27	
	9:50	32	
	10:25 AM	34	
	1:26 PM	21	38—21=17
	2:28	33	
	3:38	38	
	Totals	328	53
	Averages	27.3	17.7
		Average Number Waiting $(\bar{\bar{x}})$	Average Range $(\bar{R})$

These two figures — average number waiting and average range of groups of four ($\bar{\bar{x}}$ and $\bar{R}$ in statistical jargon) — set the problem up and statistics took over. In Chart 4, the closest diagonal line to the intersection of these quantities is the sample size line. The chart indicated that 160 observations were to be made for 5 per cent precision. Considering the press of other work, 160 was out of the question. A much more realistic possibility was 40, one-quarter of 160. This changed the 5 per cent precision interval to 10 per cent, since the interval varies inversely as the square root of the ratio of the sample sizes. To clarify that a bit, cutting the sample size to one-quarter resulted in a precision interval *twice* as large. Had the sample size gone down to 10 ($\frac{1}{16}$th), the interval would have been *four* times as large, and so forth.

The count was taken 40 times during the next week, eight times per day at random. The data were recapped in the same manner as the preliminary data above—in groups of four—with a range and, in addition, an *average* for each group. The final grand average was 37.6 and the final average range 18.6. These group averages were plotted on a control chart, Chart 5. Limits (37.6 plus and minus 14) came from Chart 6, using the final average range of 18.6.

The control chart showed good stability; there were no out-of-control points. One more check on Chart 4 using the final figures of 37.6 and 18.6 indicated 90 as the sample size for 5 per cent pre-

cision and, therefore, 23 for 10 per cent precision. Forty counts had been taken (The preliminary estimate had aimed a bit higher than turned out to be necessary). With 40, though, and evidence of control, there was more than enough assurance that the *actual* average lay roughly between 35 and 40.

Thus, in a trice, so to speak, the inventory problem had come and gone, statistical procedures telling this time what precision was possible with the amount of information conveniently obtainable. The same general procedure as in the percent case applied — a direct five-step procedure: Step 1 — Preliminary estimate. Step 2 — Design of the study: a) Number of observations based on the estimate and the desired precision; b) Plan for randomization. Step 3 — Observation according to the plan and the recap of the data. Step 4 — Analysis: a) Control chart for stability; b) Final check to see if the sample size is right. Step 5 — Concluding statement about precision.

This type of "quick and dirty" analysis is not all clear of foxholes, however. There is some limitation in interpreting results. In both cases illustrated, the exact assurance of the "right" answer applied only to the time during which the information was procured, to the week or two week period of the survey.

Knowing how far to go in an investigation is the essential part in controlling its cost. Industrial engineers, dedicated to cost control and reduction, can hardly afford to overlook techniques giving *them* the type of control over *their own* dollars that they are so eager to set up for others. The advantages of knowing when you have the right answer are not all financial, either. Statistically conducted surveys smack a little more of professionalism, a little more of science than most present approaches.

Statistical techniques in general enable the industrial engineer to offer more incisive analyses in all his work — in time study, in cost control, in labor performance analysis, in industrial experiments, in the whole gamut of his problems involving measurement of any sort. As they are used more and more, the profession comes closer to its still distant goal of "scientific management". The determination of sample size is just one example pointing out that statistical procedures are a *must* for industrial engineers.

CONTROL CHART—INVENTORY SURVEY

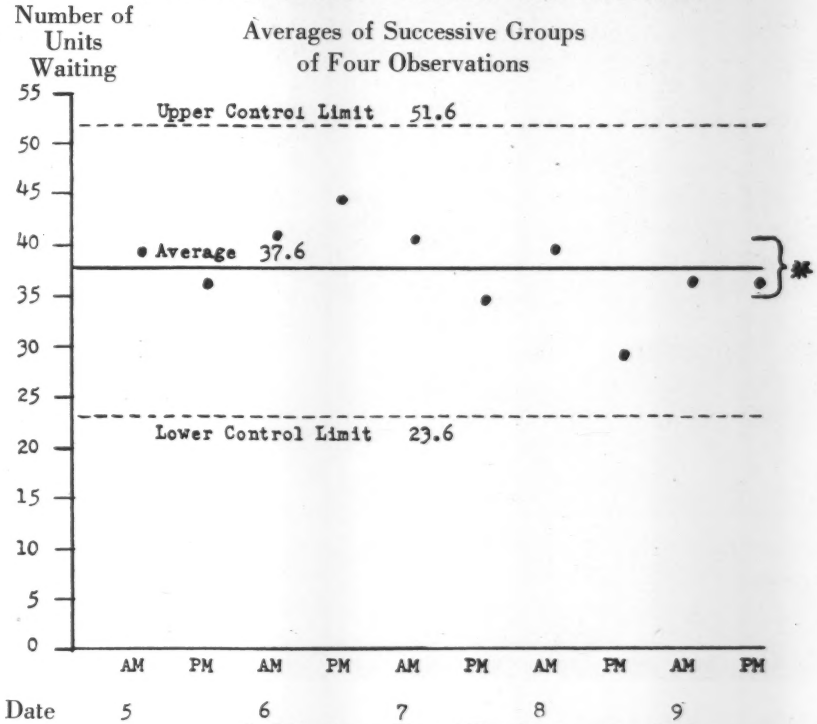


Chart 5. *95% Sure That "True" Average Value Is Within These Limits

FOR DETERMINING CONTROL LIMITS—VARIABLES SITUATION

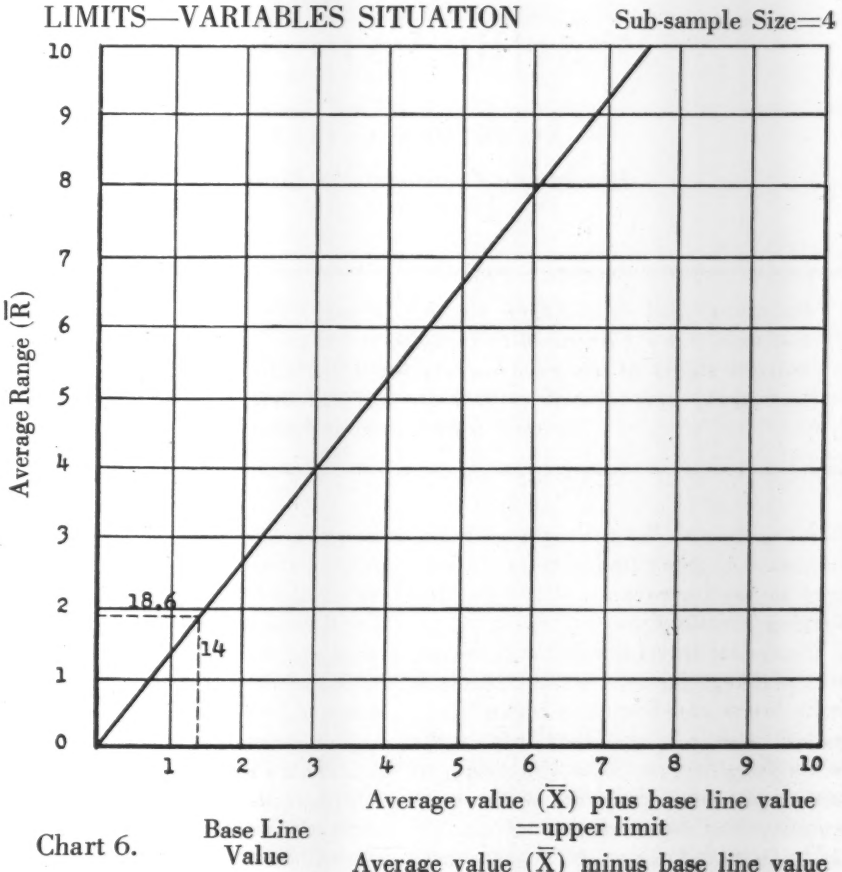
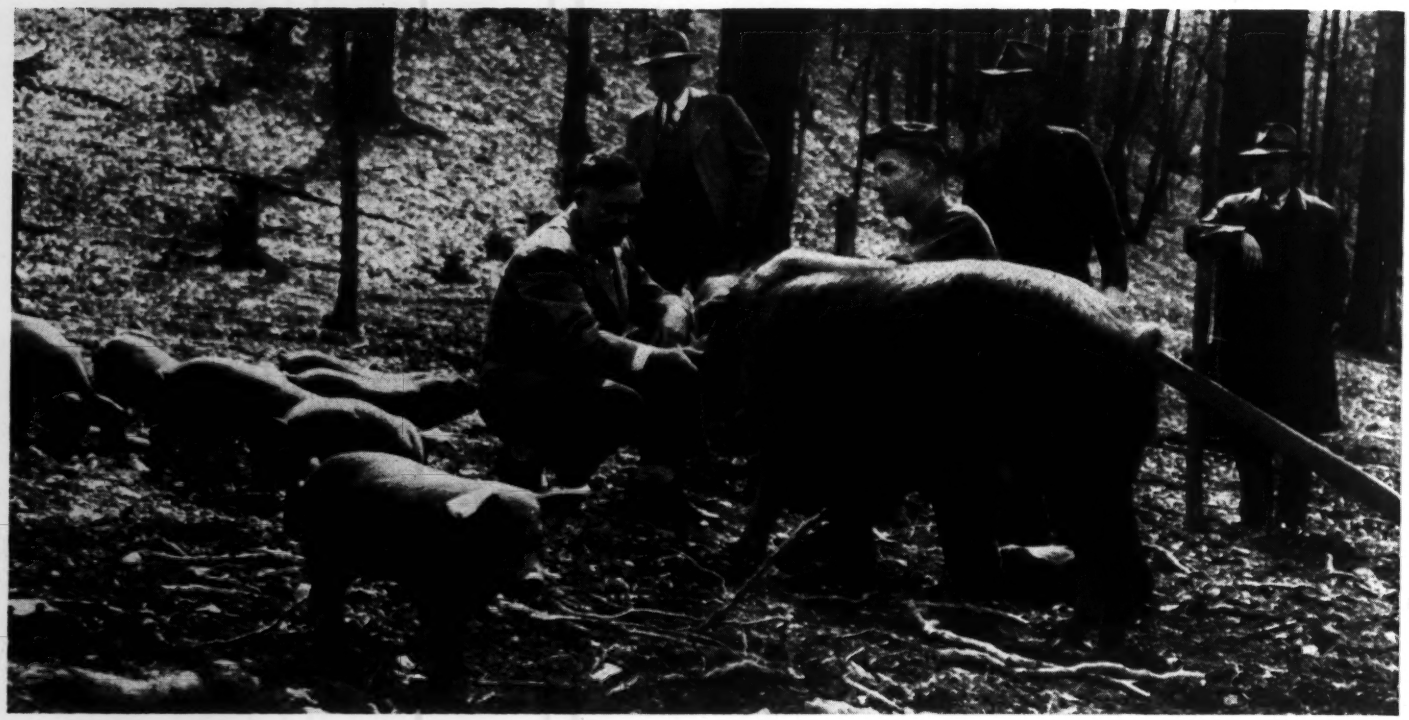


Chart 6. Base Line Value



COMMUNITY RELATIONS

Better Management Benefits Everybody

By ARTHUR C. SPURR

President, Monongahela Power Co.
Fairmont, W. Va.

Industry and commerce in this West Virginia area are strong boosters for a Community Development program — where organization starts at the community level, aided by industry-employed foresters, soil conservationists, agriculturists and management and other counsellors.

Cross Roads, West Virginia, is becoming much more than a wide place in the highways that traverse the Allegheny mountains.

The casual traveler will notice attractive, well-kept farms, rural homes with pretty lawns and flowers, a picnic grove next to a little white church, fat cattle on the hillsides, or perhaps a group of farm housewives gathered at the community center for a sewing bee.

The trend is to clean up, become more neighborly, have better farms, live more happily. The incentive is an annual contest for rural communities, called "Country Life". It was started in 1949 by the power company that serves the area and has enjoyed the able direction and supervision of the Agricultural Extension Service.

For a number of years now, the Monongahela Power Company has been knee deep in the agricultural affairs of its area to promote "better living on the farm." Taking stock of its area economy 15 years ago, we figured that if we were to grow and realize on our investment in rural West Virginia power lines, the farmers had to prosper first. Getting the electricity to them was just the start of the job. They had to be "conditioned" for better living, and to have in hand the money that would buy the appliances that use electricity or the factory products that are made with the help of electricity.

GETTING IN DEEPER

We've been getting deeper and deeper into this thing we call Community Development. First efforts were through a 10-county organization known as the Upper Monongahela Valley Association. Sponsored by the newspapers of the valley and supported by industry and commerce, that association still is going strong.

It wasn't long, however, until the development idea was expanded to cover our entire territory of 36 counties. In 1940 we launched "Farming for Better Living", an annual contest that rewards farm families for progress towards specific objectives in better farm methods and farm living. Here, too, the direction is supplied by the Agricultural Extension Service. Around 2,000 farm families participate each year. By 1948, Monongahela's territorial development staff had grown to 20 people, all of them specialists in a particular field and none of

In the mountains of Randolph County, West Virginia, industry and three banks have joined in a "pig ring" proposition. Pure-bred pigs were distributed among farm youths, and from each resulting litter, one female pig was returned to a committee for further distribution. In the picture above left to right, are E. M. Morris, banker; W. Grady Whitman, Monongahela Power Company official; Glenn Haddix, 4-H boy and owner of the sow; Werner Wegman, county 4-H agent, and Banker Clay B. Whetsell.

them connected in any way with the commercial activities of the company.

"Country Life" got its start when we made an offer of $1,000 in prizes for the rural communities that could show the best progress towards better living each year.

Today, in its third year, the program has attracted 26 communities, with a total population of just under 3,000 people. A serious effort to bring in more communities has not yet been made, since those directing the program prefer to keep the program in step with facilities for supervising it. As it now stands, enrollment has expanded from a start of eight entries in the first year.

LOCAL GROUPS TIE IN

In each community, the local sponsor is an organized community group, such as the Farm Women's Club, the Parent-Teacher Association or the Older Rural Youth group. This year in at least two counties the Chamber of Commerce has assumed responsibility for sponsoring a county contest.

The counties are grouped in two regions, one the area of the Upper Monongahela Valley and the other in the little Kanawha Valley area. It is sponsored by the newspapers and supported chiefly by the industrial and other business interests of the area.

A third region also has come into existence, in the southern part of the state. Its program is identical to that operating in Monongahela territory and it also gets its principal supervision from the Extension Service. There, too, business interests are the sponsors.

The community is judged on its progress in agriculture, educational development, recreation, religion, health and home improvement. In agriculture, the community is urged to organize on a long-term basis, 10 to 20 years.

In education, points are scored for adult participation in school affairs; for participation in a school lunch program, community fair or homecoming program; for expenditures to improve education facilities; and for participation in 4-H, the Farm Women's Club, the Young Men and Women's Club and the Youth Talk Meet. Recreation advancement is scored on what the community does to provide facilities and on the number participating.

Scoring for religious achievement considers improvements to church and grounds, and to the cemetery, also rewards for participation in church activities.

Home improvement includes such items as painting farm buildings and mail boxes, building or repairing walks and driveways, planting shrubs around the home, keeping fences in good repair, providing adequate space for family needs, installation of approved lighting and making the home heating facilities adequate.

UNITED IN WORK OR PLAY

In the field of health, families are scored for participation in health and hospitalization insurance, for vaccination and immunization, for medical and dental clinics and for proper testing of family and school water supply. The prize money received by a winning community must be put back into some community improvement project.

A few of the communities have provided themselves with a community center, and such centers are being used for parties, dances, one-act play contests, movies and other such events that bring neighbors together.

Most of all, the people who live in those communities are working together, planning together and playing together. They're making their communities better places in which to live. As one farmer expressed it: "There's more to keep our youngsters here with us, to help build up our place and run it when we're through. The kids are proud to say they live in the country. It hasn't been so long ago that they felt differently, and some were even ashamed to admit it."

This thing of bringing people together for the common good has long been a principal aim of the power company in its development activities, and we're pretty well convinced it pays off, from the economic viewpoint and as sound public relations.

In our over-all community program —agriculture, industry, recreation, conservation, better roads and the other phases—our people have preached organization at the community level. The company is willing and ready to do whatever it can to help, but we want the initiative to come from the community. That can only be obtained through the united efforts of the leaders in the community.

MONEY WELL SPENT

Take the "Farming-for-Better-Living" program. The farm family in that program is rewarded on individual effort. But the thing that has kept the program going has been the spirit of cooperation that exists. There may be 70 to 100 families in a county striving for the annual prizes and honors, but back of their individual efforts are a lot of people who are interested in them and their problems, willing and ready to help where they can and to help them celebrate the wind-up of each contest year.

In each county there's a "Farming-for-Better-Living" Council which actually directs the program, lends encouragement to those in the program and usually judges the project booklets and selects the winners. On that council are newspaper editors, bankers, merchants, professional people and farmers.

Then there are the county agents, 4-H and Vo-ag workers, home demonstration agents and the others of the established agricultural agencies who work with the farm families, giving advance and help where needed.

Finally there are the civic organizations that each Fall sponsor the banquets at which the winners are named.

The company will go in for anything it thinks might help the agricultural economy of the area. In the early days of the UMVA, it was recognized that

one of the best avenues for development was improvement of dairy herds, so the company and the association went out and bought pure-bred bulls which were loaned to Dairy Cattle Associations for breeding purposes.

More recently, when the Chamber of Commerce in one city, Clarksburg, decided to establish an artificial breeding set-up, we gave what help we could, going so far as to loan them the services of one of our people who spent a year gathering information and helping to set up the service. We're convinced it was money well spent. Today that breeding service is operating through most of the area we serve.

Monongahela Power employs a soil and water conservationist because it recognizes a definite need for sound watershed planning. There is a forester on the staff who devotes his time to promoting best woodland management practices and encouraging farm woodlots as a source of farm income. An agricultural counselor has had special training in proper farm building construction and can supply plans for a new barn that will best fit the needs and the pocketbook of the farmer. The staff also includes a farm management counselor and a rural homes counselor.

Either directly or through the Valley Association, the power company has aided and abetted the marketing of potatoes, buckwheat, strawberries and cauliflower. It has helped sponsor ham-and-bacon shows for the 4-H boys and girls and encouraged other farm enterprises. Each year we give an award of $125 to the youth in the "Future Farmers of America" organization who is picked as "Star Farmer" of the year.

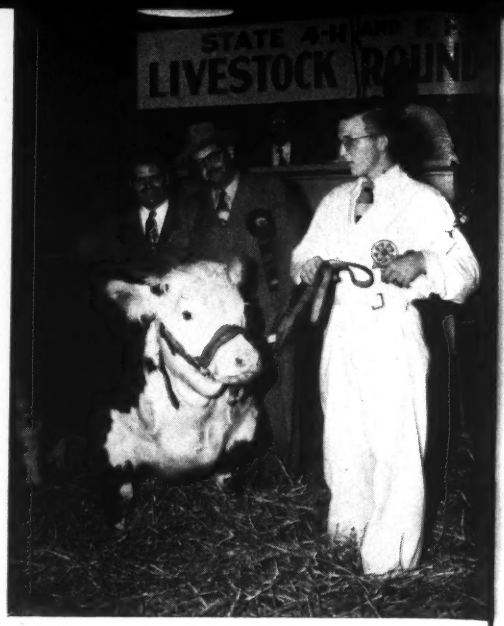
And so it goes. In the communities of northern and central West Virginia there is seldom any organized activity but what someone from the power company is involved, either as a leader or just one of the workers, because the idea of being a part of the community has filtered through the ranks.

THE COMPANY BENEFITS

The power company's philosophy is that nobody can do as well for the people of the area as they can do for themselves. As a vital part of the community and as a concern whose future growth depends to large extent on how the area grows, it feels an opportunity as well as responsibility to help in the development.

In 'selling' the area, the company has 'sold' itself. In a seven-year period that ends with 1952, Monongahela will have increased its plant account by 146 percent, and there are signs today that the expansion now scheduled will do little more than match the growth in power demands.

Selfish motives? Yes. Our program has been referred to as one of "enlightened selfishness". Experience has convinced us that the best worker in any community project is the one who has a selfish interest in getting a job done, and in all of our development efforts we've tried to cater to those interests. Without it, programs like "Country Life" and "Farming-for-Better-Living" would fall flat. The people who are in the programs have a stake—better living. The merchants, like the power company, also stand to gain, through more prosperous customers, and there's sound motive for help from the railroads who haul community products to market. It's a kind of *selfishness* that works in the best interest of all!



In West Virginia it is sound economy to market beef cattle in the "baby beef" stage, so the young farmers are encouraged along that line. Monongahela Power is a co-sponsor of the show and sale.

MANAGEMENT BOOKS *Recently Received*

The Future of Private Enterprise, by GEORGE GOYDER, published by the MacMillan Co., New York. 179 pages, $2.00.

Union Leadership Training, by A. A. LIVERIGHT, published by Harper & Bros., New York. 265 pages, $3.50.

The Supervision of Personnel, by JOHN M. PFIFFNER, published by Prentice-Hall, Inc., New York. 454 pages, $6.00.

Technique of Administration, by ERWIN H. SCHELL, published by McGraw-Hill Book Co., New York. 363 pages, $4.50.

Timestudy Fundamentals For Foremen, by PHIL CARROLL, published by McGraw-Hill Book Co., New York. 209 pages, $3.00.

Policy Formulation and Administration, by GEORGE A. SMITH, JR., published by Richard D. Irwin, Inc., Chicago. 653 pages, $7.35.

Collective Bargaining, Principles and Practices, by C. WILSON RANDLE, published by Houghton-Mifflin Co., Boston. 740 pages, $6.00.

Dynamics of a Labor Market, by CHARLES A. MYERS and GEORGE P. SHULTZ, published by Prentice-Hall, Inc., New York. 219 pages, $4.00.

Systems Analysis, by NORMAN N. BARISH, published by Funk & Wagnalls Co., New York. 316 pages, $5.00.

Goals and Strategy in Collective Bargaining, by FREDERICK H. HARBISON and JOHN R. COLEMAN, published by Harper & Bros., New York. 172 pages, $2.50.

Off the Fringe and Onto the First Team

By ALLISON V. MacCULLOUGH
National Metal Trades Association
New York City

The Tri-Partite Basis of Personnel Administration offers the personnel director opportunity to fully justify his activity as industry faces serious shortages of executives and as other conditions in the field of human relations call for emphasis on plans and policies as well as on programs to develop the human resources.

A FEW MONTHS AGO I received a letter from the president of a nationally known company stating that he had decided to "liquidate" his personnel department. He asked if I knew of any vacancies which might be of interest to his Director of Industrial Relations and associates—"all fine fellows"—who were being let out. The president did not state why he had arrived at this decision, but it was evident that he was doing so because he couldn't feel that the department was contributing to the profitability of the business.

That letter started me thinking. Like so many other executives, this particular president failed to see his personnel department as an investment instead of an expense. He failed to see that the chief function of personnel administration is to materially contribute to the increased productivity and, therefore, the profits of the business.

My first reaction to the letter was one of annoyance at the president, but there soon occurred to me the thought that maybe this president was right—maybe his personnel department (and I know nothing about it) was not contributing to the increased productivity of the business. Possibly the personnel director he was trying to unload had himself failed to see the fundamental nature of business and his place in it.

While the personnel profession has already made a real contribution to the science of management and to the success of business, there are too many cases where the personnel department is considered a luxury. Although all top executives don't hold such opinions, they are encountered so often that the nature of personnel management should be reviewed. Personnel departments will continue to be "cut back" until those engaged professionally in personnel administration realize that they cannot significantly contribute to the profitability of the company if they think their function is to provide methods and techniques and operate a softball team or a cafeteria.

COME OFF THE FRINGE

It is not at all surprising that personnel administration is thought of as a fringe activity in relation to the operation of many businesses and industries. Frequently those engaged professionally in personnel administration are responsible for this condition and for the resulting personal and professional insecurity which is inevitable.

Aside from labor relations, which at long last has become recognized as a permanent phase of corporate activity, the programs found in the usual personnel department—such as welfare, insurance, bus operation, recreation and employment activities, along with training, selection and placement — are regarded lightly by operating people. Especially in days of economy, are corporation officials somewhat justified in not taking seriously and regarding as necessary all such activities. They may rightfully feel in some cases that such department activities are lacking in substance and fail to contribute significantly to the business.

Personnel administrators, being sensitive to the situation in which they find themselves, are consequently on the defensive in relation to their own work in many areas. Resultantly, personnel departments are on an insecure basis and personnel administration as a management function is not given the recognition it deserves because the essential basis for sound personnel administration is rarely recognized and less often used as a foundation for and justification of personnel activities.

VITAL AREAS IGNORED

These comments are not designed to be critical of personnel programs per se; rather to state that those activities with which personnel administrators have been so busy are merely the outgrowth of other and more vital areas which they have ignored. Specifically, the very basis of all personnel management is: A) Organization Planning, B) Organization Staffing and, C) Policy Formulation.

If personnel programs are to be seen in their right place and given perspective, they must be related to the fundamental areas above identified. When Personnel Departments are primarily concerned with these, and only secondarily with programs then top executives will realize that Personnel Administration does contribute to the profitability and survival of a business and will not be tempted to attack Personnel Departments as unessential.

PLANNING AND STAFFING

How does Organization Planning and Staffing contribute to the profitability of the business? But first, what is meant by it? Organization Planning and Staffing is the somewhat descriptive title given to the orderly planning of an effective organization structure and the staffing of that structure so as to assure that a truly competent man will be in every key

spot at the right time and that adequate replacements are available.

There are many ways of pulling a loaded wagon, each one being the best under certain conditions. We could harness the horses by pairs; we could have ten horses abreast; we could have them spread out fan-shaped, or we could have them all in tandem. But many factors go into such a decision. Maybe the road isn't wide enough to have the horses abreast; possibly control over them is too weak to have them staggered fan-shape; maybe the snow is too deep.

. . . AND 10 YEARS HENCE

Organization planning, in other words, does not involve a set pattern, and it isn't primarily concerned with organization charts and academic principles *per se*. Rather it is basic. It requires a determination of the nature of the business; an analysis of all factors involved, and a resolution as to the best way to meet the objectives of the business. There is nothing mysterious about it. It simply requires sound judgment, hard continuous work, objectivity and the utilization of the group intelligence of the minds running the company. And it is not a job that can be done once and for all; on the contrary, it has to be done all the time to gear human organization to changing problems.

Organization Planning is inextricably interlocked with Organization Staffing. The prosperity, if not the survival, of any business depends upon the people running it—today and ten years hence!

Our top group today in American business is older than it has ever been—the average age of the officers of the large corporation is around sixty. Even more disturbing: the men just below, the men who are directly in line of succession are not much younger.

BIG TURNOVER OVERDUE

We face the biggest turnover in executive personnel this country has ever seen. The shortage of executives was accented by the war, which pulled thousands of second-level executives from their jobs. And when they returned from the war, they walked into a boom situation which, while it had its difficulties caused by scarcities, certainly could never be called a competitive era. Our current national emergency, which may continue for years, doubtless will further weaken management by siphoning good men into the government, either as civilians or as Reserve officers. And so, after a 20-year interlude of depression and war, management must take a fresh and critical view of its strengths and weaknesses and its future.

The problem is not one of *quantity* alone. The qualitative aspects of the situation are even more engaging. The discovery of management talent, both inside and outside most companies, has been haphazard. Their training has been left to chance, and too often we find seniority or luck the determining factor in promotion.

This is especially serious today and tomorrow for two reasons. Tomorrow's managers will require more skill than ever before; not only technical skills, but social and political skills. They will face the particular problems inherent in our mass production industry, such as the need for increasing technological improvements, and the need for enormous capital requirements. Also, in even more pressing form, they will face the problems presented by big government, by big unions, and the growing requirements of our American society.

The planning of the future of the business in terms of structure, men, and policy is the vital function of management—not only because of its profits and survival, but in terms of its social acceptance by the individual worker, by the group and by society.

Unfortunately, time alone does not provide the answer to management's personnel problems. The passage of time merely accentuates the need, regardless of the phase of the economic cycle in which business finds itself.

The Personnel Executive has a peculiar and vital role to play in the formulation of personnel policies. He can hardly be held responsible for personnel effectiveness and human satisfactions if he isn't deeply concerned with the creation of basic policies.

"STRATEGIC INVOLVEMENT"

It would be difficult for a production manager to be held responsible for production activities and results unless he were strategically involved in the development of production policies. Likewise, the chief sales executive or the chief financial officer would have a hollow job devoid of significance if they also were not participants in the development of policies regulating their fields.

With increasing recognition given the *human resources* of the business, it becomes clear that continuous attention must be given the formulation of policy in the field of personnel. Only from sound personnel policies do we get sound personnel practices. For example, a program of physical examinations for workers or executives would be a shallow mockery unless based on a sound and comprehensive policy reflecting the interest of the company in the health of its employees. Such a program will be regarded lightly and brushed aside when the going gets tough if it isn't solidly based on the belief, expressed in policy, that the preservation of employee's health is vital.

In recognizing that organization planning and policy formulation are time-consuming tasks, we are reminded of the country storekeeper who, upon being asked for a certain article, stated that he was out of it and that, furthermore, he

Protectors of the Programs....

THE AUTHOR OF the accompanying articles contends that:

1) Too many personnel departments operate solely as the originator and protector of a collection of incidental programs, many of which are hard to justify in days of economic stress and which are easy to slough off.

2) They seem to be engaged with activities on the periphery of operating realities.

3) They fail to provide demonstrable proof that they can contribute substantially and constructively to the increased profitability of business.

4) Personnel executives must contribute to the effective utilization of the human resource which is the greatest resource any business possesses.

5) They—and their presidents, too—act as if they do not understand the profit-making nature of the personnel function!

did not intend to stock it again, since it sold so fast that he couldn't keep a supply on the shelves.

While we may be amused at the storekeeper's incredible point of view, his attitude is no more fantastic than that of a corporation president who claims that he and his associates don't have time to continually review their organization and policies. Of course the president doesn't have time to make the detailed study and analysis required in organization planning and staffing and policy formulation any more than he has the time to follow all details of production, engineering, research and sales. While the ultimate responsibility for all such functions belongs to the president, he is forced to delegate his responsibility and authority to his immediate subordinates and to hold them accountable for their successful execution.

Our first premise is that the planning function of the president, as far as organization structure and its staffing and policy formulation are concerned, is frequently not done at all or is inadequately done. Our second premise is that these functions should properly be delegated to the department of Personnel Administration.

In some companies, organization planning is retained as a function of the president's office, while organization staffing is a function of the Personnel Department. It is herewith maintained that they should be brought together, since they are constituent parts of the same function.

It is difficult to understand how a Personnel Department charged with the staff responsibility of selection, staffing, training and compensation can perform these tasks effectively unless it also has the primary staff responsibility of determining structure and the requirements of individual positions. Personnel people working in these areas frequently discover organizational weaknesses and, in fact, their efforts are "stymied" by these organizational defects. For instance, the recruiting and placement function of the Personnel Department cannot be effective if the department attempts to aid in placing a man in a position which is not clearly defined, not properly supervised and not in correct relationship to the rest of the organization and which may be substantially altered in the near future. And when the new man in the position fails—in part or whole—he is charged with failure to perform and the Personnel Department is condemned for inadequate selection methods and practices. How can the Personnel Department aid in selecting and developing the whole man to meet the total demands of the job—both current and in the future—if it doesn't know the requirements of the position? Actually the fault is due to an organization error in that organizational planning is not a Personnel Department staff function.

OBJECTIVITY NEEDED

Long since we have learned that the best of executives need considerable help in the broad field of personnel administration, and even though organization planning and staffing and personnel policy formulation constitute some of their major responsibilities, leadership in these areas must rest with those people in the organization who, by experience, training and organizational relationships are best equipped to cope with the subject. In urging that organization and policy work constitute a staff responsibility of the personnel executive, it is recognized that leadership in this area must be based on an overall company point of view and have the ability to cross all organizational lines and geographic barriers.

A second essential is objectivity, a characteristic which a staff agency such as the Personnel Department is more apt to possess than an operating department. Personnel executives, sensitive to people, and to the needs of the organization, are in a prime position to evaluate the effectiveness of the present organization and to aid in the revision of organization and policies more nearly appropriate to current and anticipated needs of the business.

This is not intended to imply that the personnel executive, even with the help of his assistants, is privileged or is to be authorized to plan the organization and determine policies without reference to other people in the organization. To the contrary, good organization planning and staffing and policy formulation can only be assured by having wide-spread participation in the endeavor. The personnel executive, therefore, should have only the responsibility of providing leadership in these areas, working in collaboration with the entire management group.

It can be stated that the companies[1] doing the most brilliant work in organization planning and staffing are those companies where both activities are closely associated with each other or, in fact, where they are merged.

That is easy to understand since personnel problems frequently are created by poorly-defined areas of responsibility, authority and accountability. The alert personnel administrator will be quick to recognize such a situation and deal with it appropriately, provided he has the general staff responsibility for planning and reviewing the organization structure coincident with the staffing of the structure.

MOST FRUITFUL AREA

In examining all possibilities of increasing the productivity of an enterprise, there is no area more fruitful than that of management itself. A management group that is not well organized, coordinated and operating under appropriate and understandable policies cannot provide the leadership which is necessary if it is to have a team with spirit and purpose capable of meeting all competition.

These activities which have been identified are major responsibilities. They are significant in the operation of the business; they have substance and they are recognized by operating officials as vital to the business. These responsibilities, then, when carried out by the personnel executive give him in the eyes of operating officials a significant and respected role to play. He can no longer be thought of as the "professional do-gooder" dealing only in a colorful array of fancy "programs" which in themselves don't contribute to the profitability of the enterprise.

From these responsibilities naturally stem sound reasons for the establishment and operation of certain employee services and benefits. In this case these activities are soundly based on policy and belong organizationally.

Under these circumstances such "programs" are less apt to be sloughed off as meaningless while the major responsibilities of the personnel executive in organization planning and staff and in policy formulation contribute materially toward making his function an indispensable one within management.

[1]Among them are Standard Oil of New Jersey, U. S. Steel of Delaware, General Motors, and Standard Oil of California.

SOCIETY NEWS

"TRENDS AND TOOLS" CHICAGO FALL CONFERENCE TOPIC

THE CHICAGO CHAPTER of SAM is holding an Industrial Engineering Conference, October 11-12, 1951, at the Illinois Institute of Technology in Chicago. The theme of the conference is "New Trends and Tools for the Industrial Engineer" which was chosen to indicate that the Conference is geared to the personal and professional requirements of the individual delegate who attends.

The afternoon sessions of the two-day Conference will consist of small discussion groups, under competent leadership, in the form of problem clinics or workshops for more intensive examination of subjects presented in the morning sessions.

Some of the program subjects are: "Recent Advances in Motion and Time Study", "Cost Control and the Industrial Engineer", and "Operations Research—What It Means and How to Use It".

Those in charge of arrangements are General Chairman — Theodore W. Frank, American Flange Mfg. Co.; Program Chairman — Robert J. Callow, Ditto Corporation; Publicity Chairman — Henry J. Arends, Aldens, Inc.; Arrangements Chairman—Burton S. Flax, Zenith Radio Corp.; Reception Chairman — Frank Grote, Jr., American Can Co., and Attendance Chairman—Martin W. McDonough, International Harvester Co.

BRUSSELS PROCEEDINGS

THE PROCEEDINGS OF the Ninth International Management Congress, held in Brussels, Belgium, July 5-11, 1951, will be made available in early October at a price of approximately $15. These Proceedings can be ordered from The National Management Council, 501 Fifth Avenue, New York 17, New York.

WISCONSIN U PLANNING MADISON ECONOMIC STUDY

THE UNIVERSITY OF WISCONSIN, where SAM has a student chapter, has launched what is known as "An Economic Base Study of Madison, Wis." The project is being sponsored by the Bureau of Business Research and Service. It will provide statistical information on how important manufacturing, retail trade, state workers and the University are to Madison economy. Questionnaires will be sent to many Madison businessmen for information as to the foundations upon which the economy of the city rests.

Emerson Point Standings

CHAPTER PERFORMANCE AWARD

AS OF JULY, 1951

CHAPTER	TOTAL
Greensboro	240
N. New Jersey	238
Milwaukee	234
Atlanta	230
Worcester	200
Boston	184
Baltimore	180
Pittsburgh	170

AMONG THE CHAPTERS

Trenton (N. J.) Chapter virtually completed their entire yearly program planning for 1951-52 at their Summer meeting. Preparations are being made to publish a brochure giving the date, subject and name of speaker and place of meeting for each of their monthly meetings. These will be passed out to members and non-members to increase interest in the chapter activities and bring about better communications.

Milwaukee Chapter has presented a scroll signed by the directors and officers of the Milwaukee Chapter to Mrs. Frances U. Vass, Editor of the SAM News in the magazine "Milwaukee Engineering." The Chapter has also appointed her a director for one year in appreciation of her services in the interest of the Society. The July session was the annual "fun meeting," with buffet dinner, entertainment and movies. The affair was carried out on a "South Pacific" theme.

Baltimore Chapter — George R. Faustman, affiliated with the Baltimore Chapter, has been named General Factory Manager of the Bendix Radio Division of Bendix Aviation Corporation. He has been associated with Bendix Radio for the past eleven years and has held positions of supervisor of standards, plant superintendent and chief industrial engineer.

Pittsburgh Chapter has undertaken a project of helping the Pennsylvania Association for the Blind with its studies of manufacturing, materials handling, and methods and organization. A committee headed by William Witte has charge of the activities.

Hudson Valley (N. Y.) Chapter has purchased ten sets of The Harvard Business Course Case Studies to be used for study activities within the Chapter. Paul Lawson has agreed to act as coordinator of the activity.

San Francisco Chapter had Joseph A. Braun, Comptroller, A. Schilling Company Division and Assistant Treasurer, McCormick & Company, Inc. of Baltimore, as their guest speaker at the Summer meeting of SAM.

MEN IN AMERICAN MANAGEMENT

who have found it necessary to study the business affairs of Britain and the Dominions, subscribe regularly to the one magazine which keeps them well informed. It is . . .

HERBERT N. CASSON'S

EFFICIENCY MAGAZINE

EFFICIENCY has a regular subscriber circulation in 44 countries. It has FOUR FOREIGN LANGUAGE EDITIONS, and a total sale of over 140,000 copies a month. It brings you the facts and ideas about the modern business world and its methods. No one interested in modern management can afford to miss it.

FILL IN AND POST THIS COUPON NOW

ORDER COUPON

THE EFFICIENCY MAGAZINE
Kent House, 87, Regent Street,
London. W.1. England.

Please book me a two year subscription (24 issues) to the EFFICIENCY MAGAZINE for which I/we enclose $5.

NAME AND TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... STATE .....

(You can send us $5 in bills or by check. Either way suits us, but bills are probably more convenient to you.)

Motorola's Vision Program Pays Off

By KENNETH PIPER

Director of Human Relations
Motorola, Inc., Chicago, Ill.

Rejects are cut by 50 per cent —employee turnover is down 10 per cent—accidents are off a third—absenteeism is 'way down, and everybody is happy with the way an important industrial health problem is being handled.

Joe Jarnowski needed better-than-average vision for his key job at Motorola. Here the First Aid director is shown conducting preliminary tests. Soon Joe will have new glasses, paid for in part by his company.

THE SUCCESS OR FAILURE of any human relations program within an organization must be based on increased production, better quality of output, and improved employee-management relations.

These objectives have been met and surpassed as we at Motorola carry our vision testing program into its third year. Most of the success of the program should be credited to Mrs. Dorothy Brinkley, R.N., who directs our First Aid Department.

The need for a visual test of some sort became evident in 1948 when workers began complaining about various eye discomforts. At the same time, we desired to eliminate field complaints reflecting to our production line inspection department.

The need for better-than-average vision at Motorola is evident when you consider that most of our operations are classed as bench-type, which means the distance from the worker's eyes to his work is approximately 13 inches.

After probing the market for possible vision testing aids, we decided on Bausch & Lomb's Ortho-rater. This device allows us to test each employee in relation to the visual requirements of his specific job.

Early in 1949, Mrs. Brinkley and her staff began testing the 100 employees of the Outgoing Inspection Department. The results disclosed that 30 per cent of the employees failed to meet the standard of visual skill necessary to their respective jobs. And of those 30 per cent, 63 per cent had been termed "below average workers" by their supervisors.

With such results, it was not difficult to recognize the fact that correcting the 63 per cent in the poor work group would, by itself, help production in a concrete way.

INVESTMENT PAYS OFF

Within two months after this first test was administered, the number of reject units passing through the Outgoing Inspection Department was reduced by 75 per cent.

One of our basic difficulties was in giving the employees a feeling of security. We had to communicate and establish our feelings that, because an employee's vision was below normal, he would not be dismissed.

We appropriated a $5,000 budget to aid employees in correcting their vision deficiencies. By doing this, we hoped they would realize that we were interested enough in their welfare to contribute towards their vision correction. Within the past two years, our original $5,000 investment has been repaid several fold in good-will alone.

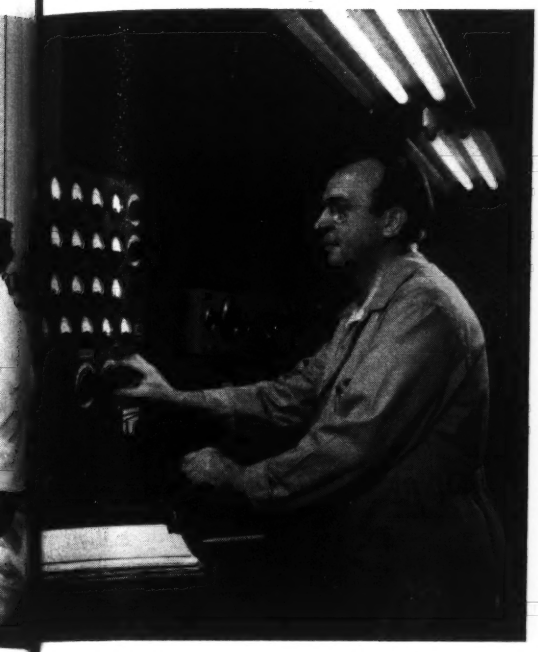
Following the testing of each employee, Mrs. Brinkley interviewed him personally and individually. She suggested to those with sight disorders that an examination probably would locate the basis of the trouble. These examinations were financed by Motorola.

If an employee's vision was found to be not correctable, he was transferred to an equal or superior position in a department requiring a lower standard of vision. In a few situations, an employee would be continued on his current job even though his vision was defective, but only if his experience in the operations made up for the difference.

TURNOVER IS REDUCED

There also was a direct relation to defective vision and absenteeism. Generally, it appeared that when we found an employee with below average sight, we also found an above average absenteeism record. As vision correction mounted, absenteeism dropped.

Compiling results of our vision program at the end of 1950, we further discovered that the number of rejected sets



Joe has his glasses and is able to do a better job — faster. Here he is shown testing one of the complicated Motorola transformers.

had dropped from 15 per cent in 1949 to less than seven per cent in 1950, and that employee turnover was down 10 per cent from the previous year. This is in spite of the fact that during 1950 we had more than doubled our personnel, adding a considerable amount of inexperienced help.

I am happy to say that today Motorola is known in Chicago as a company where you must have good vision to be employed. Not only have we benefited from our vision correction program, but our employees are better contented with their work.

It is still too early to estimate how much this experiment will save Motorola materially. At present, we are reaping the profits from reduced turnover, reduced absenteeism, higher production, fewer rejected units passing into the field, and a 33⅓ per cent reduction in machine accidents.

Last year, 42 per cent of the job applicants who were rejected for employment at Motorola because of bad vision, purchased glasses in order to work here.

Giving credit where credit is due, I feel that Mrs. Brinkley's handling of the program and its operation has been instrumental in helping our overall plant efficiency to a measurable degree.

Bestsellers All!

Reprints of the most talked-about current and recent ADVANCED MANAGEMENT articles are now available

YOUR CHOICE – 5 for $1
OR THE ENTIRE 18 - for only $3

Each article on this list has been reprinted – some several times – in response to steady demands for copies from Management Men all over the world

51. **Keynote for Management-Industry Partnership,** by Thomas H. Carroll, Dean, School of Business Administration, University of North Carolina.
52. **Simplified Incentives for Multiple Production,** by W. Dale Jones, School of Industrial Engineering, Georgia Institute of Technology.
53. **Setting Cost Reduction Goals,** by Elliott I. Petersen, Vice President for Manufacturing, Bigelow-Sanford Carpet Co., Inc.
54. **Profit-Sharing — The Importance of Being Important Together,** by Clarence A. Wimpfheimer, President, American Velvet Company.
55. **Executive Development Through Colleges and Universities,** by Earl G. Planty, Executive Counselor, Johnson & Johnson; Dr. C. K. Beach, Professor of Industrial Education, Cornell University and Gordon Van Ark, Division Manager, Personnel Development, General Foods Corporation.
56. **Communications—What Are Employees Really Interested In,** by Peter F. Drucker, Industrial Economist.
57. **What Makes Successful and Unsuccessful Executives?** By Burleigh B. Gardner, Executive Director, Social Research, Inc., Chicago.
58. **Human Relations in Industry: A Challenge for Free Enterprise, "Industrial Relations and the Social Psychologist."** By Dr. Douglas McGregor, President, Antioch College.
59. **Resistance to Change — Its Analysis and Prevention,** by Alvin Zander, Research Center for Group Dynamics, University of Michigan.
60. **Line and Staff—Their Roles in the Organization Structure,** by J. K. Louden, Vice President, York Corporation.
61. **Wartime Lessons in Wage Administration,** by Canby Balderston, Dean, Wharton School of Finance and Commerce, University of Pennsylvania, and Former Assistant Chief, Civilian Personnel Branch, Industrial Personnel Division, Army Service Forces.
62. **The Industrial Use of Personality Tests,** by William E. Henry, Department of Psychology and Committee on Human Development, University of Chicago, and Harriett B. Moore, Social Research, Inc.
63. **Staff Organization for Control,** by J. K. Louden, Vice President, York Corp.
64. **Efficient Planning for Budgeting,** by Charles C. James, Associate Counsellor, Stevenson, Jordan and Harrison.
65. **Budget Navigation by Dead Reckoning,** by Alwyn M. Hartogensis, Ebasco Services, Inc.
66. **Democratic Principles in Business Management,** by James C. Worthy, Sears, Roebuck and Company.
67. **Creative Leadership,** by Alfred H. Williams, President, Federal Reserve Bank of Philadelphia.
68. **Personalities in Labor-Management Conflicts,** by A. A. Imberman, Imberman & De Forest.

Order Coupon

SOCIETY FOR ADVANCEMENT OF MANAGEMENT
84 William Street - New York 38, N. Y.

Please send ..... copies of the following reprints:
Numbers ....., ..., ..., ..., ..., ..., ..., ..., ..., ...
at 25 cents each — or Five for $1
..... Put a check mark here to order
THE FULL SET OF 18 REPRINTS for $3
Enclosed find check (or money order) for $.....
Name .....
Address .....
.....
I am a member of S.A.M. .....

The Management Bookshelf

Managerial Economics, by JOEL DEAN, Prentice-Hall, Inc., New York, 1951, $3.50.

JOEL DEAN HAS WRITTEN a valuable and interesting book covering those aspects of economic analysis which are, in his opinion, of greatest usefulness to the management of large industrial enterprises. He has drawn heavily on published material in the fields of applied economic analysis and, to a very large extent, on his own previously published articles and monographs. Well-balanced and lucid discussions are presented of those economic concepts which meet Mr. Dean's criteria of usefulness, measurability, and applicability.

In a chapter devoted to "Cost", Mr. Dean analyzes with great discernment such items as some of the factors which account for differences in costs between companies, the best ways of studying cost-output and cost-size relationships, and methods of allocating costs in multiple-product companies. An analysis of the limitations and biasing factors present in conventional break-even analyses is very pointed and thorough. However, it might have emphasized a little more the great managerial usefulness of this tool despite its limitations and, at times, illusory precision.

Throughout the book Mr. Dean very competently dissects the inadequacies of accounting cost records for managerial decisions and how costs derived from these records must be adapted for various managerial purposes. This subject is most important and cannot be overemphasized. It is frequently very difficult for operating executives to realize that different figures must be used for different purposes; that a cost figure which is correct for one purpose is incorrect for another one; that different cost values on the same product or activity are required for making different kinds of decisions.

The pricing problems of manufacturers occupy an important place in this book. Among the questions which are discussed with insight are: How should differentiated products which are relatively impregnable to competitive inroads be priced? In what ways should the approach be different for the pricing of differentiated products which will be subject to competitive encroachment at varying speeds? What are the economic considerations in pricing under an oligopolistic situation (few sellers)? What are the inadequacies of cost-plus pricing? How should prices be changed with business cycle fluctuations? How should the various members of a product group be priced considering cost, demand, and development relationships as well as size, quality, and special design differences? What are the elements of repair parts pricing? What factors need be considered in giving distribution, quantity, and cash discounts and allowing geographic price differentials?

"Managerial Economics" closes with an excellent theoretical discussion of capital budgeting and planning which considers the general aspects of determining the demand for capital (what are the prospective projects and their profitability?); the supply of capital (how much money will be available from internal and external sources?); and the capital budgeting or rationing problem (how much should be spent and where?). Despite some oversimplification of theory, concepts are developed which penetrate to the heart of the capital budgeting process. This capital budgeting problem constitutes a potentially fruitful area for further research in applied economics.

"Managerial Economics" is a very worthwhile addition to the literature of applied economics. Mr. Dean has brought together in one volume a number of significant economic approaches to problems which concern many business managers and he has cast a new light on many of them. His emphasis is on concepts rather than techniques, so that many of the ideas cannot be applied directly by the uninitiated. Although written with large scale enterprise in mind, many small enterprise managers will also find much helpful information in this book.

NORMAN N. BARISH
Associate Professor of Management Engineering and Secretary,
College of Engineering,
New York University

The Theory and Practice of Industrial Research, by DAVID B. HERTZ, McGraw-Hill Book Co., Inc., New York, $5.50.

A LOT OF MONEY is wasted on industrial research because the objectives have not been clearly defined and the work itself organized so said objectives could be reached. This excellent book takes apart, for the first time, the many elements of industrial research and analyzes them. The end result can best be stated in the author's own words, "we may conclude that industrial research is susceptible to rational study and understanding".

I would personally recommend that all those who are spending money on research projects and those who are managing or supervising such work—read this book. You will be bored with much in the early chapters having to do with the history or background of research. On the other hand, you will better understand some of the basic principles of making research pay off.

Much can be learned from this text regarding what types of research a given organization should or should not undertake. This in itself should be helpful to many top management people. They will learn, from reading some of the factual material, how important it is for companies and industries to carry on research work in order to maintain their competitive status. At the same time managers will learn how easy it is to waste money on unorganized research.

There must be planning, organization, budgets and controls just as is true of any other industrial activity if it is to be successful. Such important steps can all be taken and that is something most management people have not known. Furthermore, the matter of communications (as used in personnel circles) is vital to the success of all research programs. The group dynamics (another personnel term) of industrial research

THE PROCEEDINGS OF
The Sixth Annual Time Study and Methods Conference

THE OUTSTANDING INDUSTRIAL ENGINEERING EVENT OF THE YEAR.

Sponsored by

Society for Advancement of Management

and

American Society of Mechanical Engineers

A complete edition including the 14 outstanding papers, with charts and graphs, at all sessions of this record-breaking conference.

Only through these proceedings can you get the last word in tested and proven Time Study and Methods techniques as demonstrated by successful authorities on each major topic.

PREPARATION SESSIONS

"How to Organize and Operate an Industrial Engineering Department," W. Gilbert Brooks, Chief Industrial Engineer, Pitney-Bowes, Inc.

"How to Meet the Industrial Engineering Manpower Shortage," P. Kay Schwartz, Vice-President, Proctor & Schwartz, Inc.

"Selling Industrial Engineering," H. B. Maynard, President, Methods Engineering Council

IMPROVING THE TOOLS SESSIONS

"How to Chart Time Study Data," Phil Carroll, Professional Engineer

"Improving Methods Through M.T.M.," Ralph Kirwin, Chief Industrial Engineer, Bulldog Electric Products Co.

"Improving the Time Study Rating Process," Samuel M. Dix, Industrial Engineer, General Foods Corporation

"Productivity—The Key to National Security," Dr. Harold G. Moulton, President, The Brookings Institution

BETTER METHODS MEAN MORE MANPOWER SESSIONS

"Incentive for Indirect Labor," George Dlesk, Chief Industrial Engineer, American Box Board Co.

"Measuring Multiple Machine Interference," Dale Jones, Assistant Professor Industrial Engineering, Georgia Institute of Technology

"Tailoring the Incentive Plan," Paul J. MacCutcheon, Chief Industrial Engineer, Peter Cailler Kohler Swiss Chocolates Co.

"Measurement—A Tool for Management," Ralph Presgrave, Vice President, J. D. Woods & Gordon, Ltd.

LET'S WORK WITH A WILL SESSIONS

"Time Study Training for Supervision," J. F. Biggane, Chief Industrial Engineer, Maytag Company

"Simplifying the Product Design," Collier A. Elliott, Director, Product and Package Design, Methods Engineering Council

"Layout Planning With 3 Dimensional Models," Robert T. Charlton, Production Engineer, Magee Carpet Company

ach paper listed above was prepared by a specialist the particular field covered. The authors are successful xecutives who have distinguished themselves by the performance of pioneer creative work in the field of Time tudy and Methods Engineering.

The practical, proven plans they describe and the basic rinciples and theories discussed are made available by he Society in accordance with its long established principle of encouraging the inter-change of information that romote the use of scientific management.

Order Now!

Order Coupon

SOCIETY FOR ADVANCEMENT OF MANAGEMENT
84 William Street, New York 38, N. Y.

Please send me_____copies of the Proceedings of

THE SIXTH ANNUAL TIME STUDY AND METHODS CONFERENCE
April 19, 20, 1951

☐ at Member's Price, $3.00 each
☐ at Non-Member's Price, $5.00 each
☐ Please send free sample copy of Advanced Management, the Society's monthly magazine.

Enclosed find check (or money order) for $_____

Name_____

Address_____

Make checks payable to:
SOCIETY FOR ADVANCEMENT OF MANAGEMENT, 84 William St., New York 38, N. Y.

organizations comes in for its needed share of discussion.

The author confirms my suspicions that the matter of personal recognition and the other non-financial incentives are of terrific importance to our research prima donnas. The climate (supervision and facilities) for getting results from technical people is covered rather well. A whole book could be (and should be) written on this matter of dealing with technically-trained employees.

The chapter on patents will give most readers a better insight into this whole field. For those who wish greater details regarding this subject a fine bibliography is included which lists the better articles on the major subjects included in the text itself. Similarly there is appended a very good index which makes the book valuable for reference purposes.

Over the years there has been much discussion regarding the external relationships of research departments. The author covers the various angles of this problem and brings to light some matters of great importance. After reading it you will understand why it is vital to maintain understanding between a research group and other departments, other companies, the government, institutions, professional societies and the public.

GUY B. ARTHUR, JR.
President, Management
Evaluation Services, Inc.
Toccoa, Ga.

Budgetary Control, by WALTER RAUTENSTRAUCH and RAYMOND VILLERS, Funk & Wagnalls Company, New York, $5.

THE PRACTICE OF budgetary control is not new, and much has been written on this subject within the past few years. "Budgetary Control" is a distinct advance in the breadth of its coverage and in its manner of integrating three major divisions — inventory and production; manufacturing expense; and selling and administrative expense, into an organic tool for overall profit control.

In their introduction, the authors state that, "By definition, a business is a budgeted venture: that is, every business can spend only what money or credit is available to it, in its purse—its bougette. Well-managed businesses will not only consider what is in the purse at the moment, but will try to forecast the future income and the future expense, and will endeavor to control them to such an extent that they will be continuously adjusted to each other. This is budgetary control. Every business, by definition, has a budget; but even today, few businesses have a complete and efficient budgetary control."

Part I deals with sales budgets. Practical illustrations are given showing the influence of three factors affecting sales: a) Adjustment factors, or changes due to extraneous or non-recurring conditions; b) Change factors, including the effect of such items as product changes, production changes, or market changes, and, c) Current growth factors, such as goodwill, momentum, and the potential of the particular industry itself.

Part II outlines mathematical and graphical solution to many problems entailed in the development of budgets for inventory and production, manufacturing expense, and selling and administrative expense. Graphical means for determining fixed and variable expenses are well developed and explained.

The problems of control and adjustment are taken up in Part III. Of particular interest is the discussion of sales mixture problems, covering the profitable control of sales of a variety of products, with varying profit potentials. The handling of this particular subject, with the graphical analysis represented by the sales mixture chart, is perhaps the significant contribution of the book.

Part IV includes practical application of other types of budgets; profit and loss, cash budgets, together with a well developed discussion of the more intricate problems of budgeting such items as capital expenditures, major repairs and research.

The closing chapter of the book might well be read first by the executive contemplating the introduction of budgetary control within his business. In addition to technical factors, space is devoted to a discussion of organization problems often encountered.

"Budgetary Control" deserves a place on the bookshelf of every operating executive concerned with the problem of maintaining adequate profit margin in today's economy.

H. K. VON KAAS
Chief Manufacturing Engineer
Line Material Company
Milwaukee, Wisconsin

Special Introductory Offer

Modern Industry

The Monthly Magazine for Executives in Industry

To readers of *Advanced Management*, a service of new cost-cutting ideas and techniques, and improved executive methods is offered in a 12-month subscription to *Modern Industry* for *only* $3!—(regularly $4.00). Included with this special subscription will be a FREE COPY of Modern Industry's "Idea Book for 1951"—featuring cost-cutting ideas, Management Checkup Charts, and executive methods. *Send coupon today!*

Modern Industry, 400 Madison Ave., New York 17, N. Y.

Yes—**enter my subscription (or advance renewal) to Modern Industry at your Special Rate of $3 for 12 Full Months (regularly $4.00), and include my FREE COPY of your "Idea Book for 1951":**

Name_____ **Title**_____

Address_____

City_____ **Zone**____ **State**_____

Company_____

Is this ☐ Company Address? ☐ Home Address?

☐ Send bill ☐ Payment enclosed

Methods of Operations Research, by PHILIP M. MORSE and GEORGE E. KIMBALL, The Technology Press & John Wiley & Sons, $4.

"OPERATIONS RESEARCH is a scientific method of providing executive departments with a quantitative basis for decisions regarding the operations under their control." This ambitious generalization, with which the authors open their book, is fully justified by the specific arguments and applications which follow. This book should be of interest to three main groups of readers: executives, educators and engineers.

It is difficult to see how top management of business, governmental or military enterprise could afford to overlook the approach to operating problems presented in this book.

This reviewer feels strongly that the extent to which Operations Research might fail or not be applied in indicated situations will be a function of deficiencies in high school and more particularly undergraduate college mathematics curricula as well as teaching methods. This book could go a long way toward providing the vitamins which would encourage the surfeited sophomore to digest the language of science.

Particularly those engineers engaged in staff capacities to assist operating managers will read this book. Perhaps the term "engineer" is too limited, since the field of the Operations Research worker embraces all types of problems which can be formulated in quantitative terms. As a matter of fact, the proper formulation of the problems is one of the prime functions of the operations research worker.

The application of probability theory is one of the most potent of operations research methods. Consequently some of the examples and expositions in the book involve mathematical arguments. An outstanding job has been done by the authors in stating such arguments concisely enough not to deter the general reader, yet in enough detail to satisfy the research worker. The omissions probably will enhance the value of the book as a text.

A word should be said about the construction of this book. The authors and publishers deserve high praise for the size and double column format which considerably expedite reading. The text itself is a model of readable presentation of technical information. The handy tables of random sequence of digits, angles, and normal deviates; binomial, normal, and Poisson distribution functions; complete bibliography and index are a boon to the research worker and teacher.

J. FRED FISHER
Registered Professional Engineer,
Los Angeles, Calif.

WANTED

CHIEF INDUSTRIAL ENGINEER

Progressive west coast lumber and wood products firm with multi-plant operation seeks man, 35 to 45, with college degree in industrial engineering, to develop and administer complete industrial engineering program.

This is a top level position, requiring one who has served as chief industrial engineer or assistant, preferably with experience in manufacturing, material handling and storage.

Must be capable of working in staff capacity, doing direct industrial engineering work, supervising activities of others, and securing the cooperation of personnel.

Give complete resume of qualifications and experience. Enclose a recent snap-shot or photograph. Your reply will be held in strict confidence. Address SAM, Box 318-O

PROFESSIONAL NOTICES

BRUCE PAYNE and **ASSOCIATES** Inc.
WESTPORT 1, CONN.
BOSTON 16, MASS.
CHICAGO 1, ILL.
ATLANTA 5, GA.
MANAGEMENT CONSULTANTS

PHIL CARROLL
Registered Professional Engineer
MAPLEWOOD, N. J.

GRIFFENHAGEN & ASSOCIATES
Established in 1911
CONSULTANTS IN MANAGEMENT
Advice and technical assistance on problems of policy, organization, procedure, personnel, and finance.
Chicago New York Boston
Washington Milwaukee Los Angeles

GEORGE H. ELLIOTT and Company
CONSULTING MANAGEMENT ENGINEERS
521 Fifth Avenue, N. Y. 17 • MU 7-5768

CAREER POSITIONS
For Industrial Engineers and Industrial Relations Men
GEORGE A. SHANNON
Agency
11 WEST 42nd ST., N. Y. C. CH. 4-6576

HOTEL ESSEX HOUSE
1050 Broad Street at Lincoln Park
Newark, N. J.
A. C. Allan, General Manager
Largest and Most Complete Catering, Banquet, Ballroom, and Meeting Facilities
"Where the Northern New Jersey S.A.M. Chapter Meets"
Home of THE "CAROUSEL"
Newark's most beautiful Cocktail Lounge and Supper Club
For inquiries and reservations
Telephone MItchell 2-4400